



Beyond Distance Education

Cutting-Edge Perspectives on the
Future of Global Open Universities

Chief Editor

Jing Degang

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS

OPEN UNIVERSITY OF CHINA PRESS
BEIJING

It is a pleasure to be invited to contribute the Preface to this valuable volume of essays on the open universities of today. The volume is timely now that the open university as an institutional type is more than 50 years old, and the leadership of the Open University of China is to be congratulated on taking the initiative in its publication.

The open universities represented here come from 5 continents, and show how widespread the open university movement is. While the model of an open university is not uniform around the world, there are enough common features—in its flexible entry, its use of distance and online teaching, its innovation with educational technology and its aim to support adults and high school leavers who would otherwise not find opportunity—to be able to talk meaningfully about an open university movement. There are more than 100 open universities in the world today, depending on how broad or narrow a definition is used, and more still in preparation for establishment as some of the middle and lower middle income countries of the world prepare to use an open university model to move from very limited elite systems of higher education and closer to mass systems.

Out of the range and variety of open universities represented here they demonstrate I suggest the following principal functions:

- to support national and economic development;
- to respond to public demand;
- to widen access to new groups of students;

- to support change in a country's higher education system, especially with regard to the digital transition.

As open universities are now well established in the national ecosystems of higher education all around the world, it is important to monitor how campus-based universities are adopting many of the features that open universities have pioneered, and to ask where the next phase of innovation for open universities will be focused.

Many of the chapters deal either centrally or at least in part with the impact of the COVID-19 pandemic on the particular open university, or more generally on its impact on higher education and the ways in which open university methods have helped campus-based universities adapt to remote working. It is clear that open universities have been robust and resilient with their model of home-based study, and will maintain and enhance their importance once the pandemic has receded.



Alan Tait

former Pro Vice-Chancellor, Professor Emeritus of
Distance Education and Development, the Open University
Honorary Doctor of Letters, the State University of New York
Cambridge, UK
February, 2021

Since 2020, COVID-19 has posed an unprecedented global challenge. Educational institutions in countries around the world have been temporarily closed. Nearly 1.6 billion students in over 190 countries and regions have had to suspend their studies to some degree. Every country has made attempts to reduce the negative effect of school closures. The most widespread measure taken has been to move to online education, which has since evolved into the largest and longest-lasting experiment in online learning in human history. Taking Chinese universities as an example, in the first half of 2020 alone, 1.08 million teachers have taught 1.1 million online courses, accounting for 91% of all courses. 22.59 million students have participated in online learning.

As we enter the post COVID-19 era, the landscape of higher education has been significantly altered. Campus-based universities focusing on traditional face-to-face teaching have entered a key stage of adjustments and changes, and the experience of online education practice accumulated during the pandemic is highly likely to extend into the future and may even become the norm. Open universities, which traditionally use distance and online learning as the main delivery for education, have moved into a development stage of transformation. The Open University of China (OUC) has succeeded despite the impact of the pandemic, with its enrolment rate increasing by 8.6% in 2020. Students are increasingly attracted by the OUC's flexible learning and huge number of learning resources. Are these two different

types of higher education institutions now pursuing the same goal via different routes or are they ultimately pursuing different goals? How can campus-based universities adapt to complex environmental changes? How can open universities maintain their core strength? Where does higher education go in the future? Which paths should it follow? These are urgent and serious issues facing the leaders of universities and other educational institutions across the world.

In order to explore these questions and find solutions, I extended an invitation to many open universities and conventional universities around the world, proposing an initiative to discuss the development of universities in the pandemic and post-pandemic era, share strategies and predictions for upcoming challenges and opportunities, and discuss practices and experience beyond distance education.

I would like to express my sincere thanks to the leaders of 15 universities and international associations for their contributions and the time they took out of their busy schedules, including: Professor Kwan Ching Ping Reggie, Vice President of the Open University of Hong Kong; Professor Alan Tait, former Pro-Vice-Chancellor of the Open University UK; Dr. Neil Fassina, President of Athabasca University and President of the International Council for Open and Distance Education; Professor Asha Kanwar, President and CEO of the Commonwealth of Learning; Professor Mandla Stanley Makhanya, former Vice Chancellor of the University of South Africa; Professor Ryu Su Noh, President of Korea National Open University; Professor Uwe Elsholz, Vice President of FernUniversität in Hagen, Germany; Professor Josep A. Planell, President of the Universitat Oberta de Catalunya, Spain; Professor Ojat Darajat, Rector of Universitas Terbuka, Indonesia and President of the Asian Association of Open Universities; Professor Masaya Iwanaga, President of the Open University of Japan; Professor Dato' Dr. Mansor Fadzil, President of the Open University of Malaysia; Professor Moustafa Hassan, Vice-Chancellor of Hamadan Bin Mohammed Smart University in Dubai; and Dr. Daniel Tau, President of Botswana Open University. With a view to presenting a full picture of the development of distance education, I also invited

two conventional universities to join this dialogue. I offer my thanks to Professor Daire Keogh, President of Dublin City University, Ireland, and Professor Elizabeth Johnson, Vice President of Deakin University, Australia. Last but not least, I am grateful to Sir John Daniel, a distinguished pioneer in the open and distance education field, who co-authored the article with Professor Asha Kanwar. This book would not have been possible without you and your team.

Open universities are always sailing against the tide in an unpredictable world. I hope that this book gives a concise overview of the situation facing open universities, and will trigger conversations among colleagues in the international community and encourage them to cooperate in the future. *Beyond Distance Education: Cutting-Edge Perspectives on the Future of Global Open Universities* will be with you as you move forward on your journey.

My thanks also go to all of my colleagues and friends who have read and will read this book.



Jing Degang
Beijing, China
February, 2021

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS

Contents

- 3 The Future of Open Universities: From Quantity to Quality
Jing Degang, China
- 25 Teaching Innovations at the Open University of Hong Kong
Kwan Ching Ping Reggie, Hong Kong, China
- 67 The Open University of the United Kingdom: Looking Back,
Looking Forwards
Alan Tait, UK
- 85 Bridging Social, Cultural, and Economic Divides:
A Vision for the Future of Education
Neil Fassina, Canada
- 105 Education in the Commonwealth During COVID-19:
From Response to Resilience
Asha Kanwar, India; John Daniel, UK/Canada
- 129 ODeL in Transition: Reorienting, Reprioritising and Restrategising
in a Time of COVID-19
Mandla Stanley Makhanya, South Africa
- 155 Best Practices of the Open Universities Worldwide: KNOU
Ryu Su Noh, ROK

- 187 More than Distance Learning! —New Challenges for FernUniversität
Uwe Elsholz, Germany; Desirée Kampmeier, Germany
- 207 The UOC, a Distanceless University *Josep A. Planell, Spain*
- 227 Optimizing Online Learning Services for Open and Distance Learners:
Universitas Terbuka's Opportunities During the COVID-19 Pandemic
Ojat Darajat, Indonesia; Lidwina Sri Ardiasih, Indonesia
- 251 Predictions and Strategies of Open and Distance Higher
Education in Japan *Masaya Iwanaga, Japan*
- 269 Directions of Open and Online Education: Prediction and Strategies
—A Case Study of Open University Malaysia
Mansor Fadzil, Malaysia; Yeong Chooi May, Malaysia
- 307 Best Practices at Hamdan Bin Mohammed Smart University
Moustafa Hassan, UAE
- 327 Botswana Open University in the Post-COVID 19 Era
Daniel Tau, Botswana; Gbolagade Adekanmbi, Botswana
- 357 A Story of Transformation: From Digital in Part to Digital at Heart
Mark Brown, Ireland; Daire Keogh, Ireland
- 389 Online at the Core: Lessons Learnt from the Deakin Journey
*Elizabeth Johnson, Australia; Marcus O'Donnell, Australia;
Helen Partridge, Australia*
- 411 Epilogue



Dr. Jing Degang

...strategies and core areas of transformation in the new era the University is facing, i.e., to transform the OUC from seeking quantity to striving for quality, from a focus on qualifications to one on knowledge, from providing degrees to enhancing skills, and from prioritising online teaching to the integrated development of online and offline teaching. By doing so, the OUC will be transformed into a major platform for lifelong learning and online education, and a platform for flexible learning and international cooperation...

Dr. Jing Degang received his PhD. in Economics, Jilin University, China. He is the Party Secretary and the President of the Open University of China, where he is responsible for operational leadership of the University. He has also served as the Director of the University Affairs Committee. Dr. Jing is the Vice President of China Vocational Education Association and the National Superintendent on Education. Currently he is a member of the Education Information Expert Group, Ministry of Education. Dr. Jing worked as Director General, Deputy Director General, Ministry of Education, and Deputy Director General of Education Department in Qinghai Province. His research interests include employment and entrepreneurship, university governance, lifelong learning and open education, etc. He has more than 40 publications including *Research on Employment Model of Overseas University Graduates*; *Open Universities' Reform: Mission, Development and Challenge*; *Mission for Open Universities Based on a Vision of Lifelong Education*. He chairs national level and ministry level research projects, such as “Research on the Construction of an Education System Serving Lifelong Learning for All”, and “Research on the Construction of National Credit Bank”.



The Open University of China
<http://en.ouchn.edu.cn/>

The Future of Open Universities: From Quantity to Quality

Jing Degang, President, the Open University of China

Abstract

Since 2020, COVID-19 has posed an unprecedented global challenge. Nearly 1.6 billion students in over 190 countries and regions have had to suspend their studies to a certain degree. Against this background, the longest-lasting and the most large-scale online learning experiments in history have been implemented. Online education has played an irreplaceable role in society over the past years, creating a new landscape of global education. In the face of the complexities of the post COVID-19 era, how will open universities be transformed, and how can they play a more significant role in economic and social development? These are crucial questions. Based on an examination of the organisational behaviours of the Open University of China (OUC) during the pandemic, this article reviews the University's historical contributions over 40 years, reflects on the difficulties and problems faced during its development, and analyses its current challenges and opportunities. It proposes strategies and core areas of transformation for the new era the University is facing, i.e., to transform the OUC from seeking quantity to strive for quality, from a focus on qualifications to one on knowledge, from providing degrees to enhancing skills, and from prioritising online teaching to the integrated development of online and offline teaching. By doing so, the OUC will be transformed into a major platform for lifelong learning and online education, and a platform for flexible learning and international cooperation, with the aim of better serving China's economic and social development.

Key Words

open universities; quality; strategic development; reform pathways; from quantity to quality

The outbreak of the COVID-19 in early 2020 disrupted the normal routine of on-campus education. As of the end of October 2020, there were still 31 countries where all schools remained closed worldwide, with more than 0.6 billion learners (34.4% of total global enrolled learners) unable to return to school due to the pandemic. Nearly 1.2 billion learners in more than 160 countries and regions have had their study interrupted to a certain extent (UNESCO, 2020). With school closures used as a measure to contain the pandemic, schools and teachers have been forced to migrate to online teaching. China was the first to start a large-scale online experiment, known as “Disrupted Classes, Undisrupted Learning and Teaching”. In the spring term 2020, there were 1.08 million teachers offering 1.1 million online courses in Chinese colleges and universities, for a total of 17.19 million courses. In all, 22.59 million college and university students participated in online learning for a total of 3.5 billion times (Wu, 2020). The proportion of courses offered online during the spring term accounted for 91% of the total courses expected to be offered, and the rate of student satisfaction with online teaching reached 85%, meaning that online teaching achieved the same quality as face-to-face (F2F) teaching (Wu, 2020). China has explored multiple aspects of online higher education, including concept, content, methodology, technology, standards, assessment and mode.

By making full use of its ICT and digital learning resources, the OUC was the first to respond to the requirement of “Disrupted Classes, Undisrupted Learning and Teaching” by providing learning platforms, digital resources, and online courses for free to elementary and middle schools, vocational colleges, conventional universities, educational agencies, and training organisations. According to internal OUC statistics, more than 20,000 online courses, 37,000 micro online courses, and 68,000 digital learning resources were offered to 7,582 institutions, with the page views reaching over 0.2 billion. In 2020, the OUC signed a memorandum of understanding with UNESCO (United Nations Educational, Scientific and Cultural Organization) and supplied 20 video clips with English subtitles on pandemic prevention and control to the UNESCO Institute for Information Technologies in Education. The OUC and UNESCO jointly designed and developed an online course on ICT capacity building for African K-12 teachers, implemented online training for teachers in Mongolia, and provided Chinese teaching courses for Indonesia, Thailand, and Zambia. At the same time, the OUC was forced to upgrade its ICT capabilities in order to meet the requirements of epidemic prevention and control, and now an

upgraded ICT infrastructure integrating 5G and a smart learning platform is almost complete. All learning resources are offered either online or via Apps. Recruitment, examination, teaching, and tutorials have also been rearranged. 284 core teaching teams and 4,264 management teams have provided learner support services via the Internet and carried out mobile learning and live tutorials through multiple terminals. 3,409 real-time live teaching sessions and 49 online open classes have been offered, attracting over 10.16 million views. The promotion of enrolment and online student registration via multiple channels have achieved new breakthroughs. Annual enrolment exceeded 1.6 million students in 2020, a year-on-year increase of 7.4%. During the pandemic, the OUC's staff and students united as one and spared no efforts to overcome difficulties together, demonstrating the characteristics and advantages of the OUC.

1. Looking Back

Open universities are a product of economic and social development. As a special mode of institution in higher education, open universities have played an irreplaceable role in the past and today.

From the external degrees first implemented by the University of London in 1849 to Cape of Good Hope University established in South Africa (renamed the University of South Africa in 1946); from the birth of the Open University UK in 1969 to the foundation of Chinese Radio and TV Universities (CCRTVU) in 1979; from the establishment of Indira Gandhi National Open University in 1985 to the transformation of Botswana Open University in 2017, open universities around the world have gone through many different stages of teaching and technologies, including correspondence, radio and TV, ICT, the Internet, and smart and flexible learning (Taylor, 2001). Regardless of which stage they are at, open universities have provided education to those that conventional universities cannot reach by integrating modern information technology with education and teaching. This allows them to satisfy the needs of the vast majority of learners, with the aim of guaranteeing the access to higher education.

In October 1977, Deng Xiaoping, chief architect of China's reform and opening-up, met with

British Prime Minister Edward Heath. During the meeting, Deng learned that there were more than 200,000 students in the Open University UK, which delivered education via radio and television. This University had made remarkable contributions to higher education and had been widely acclaimed. Deng immediately stated that China could also develop higher education using this method (Yang, 2019). In February 1978, the Ministry of Education and the Central Bureau of Broadcasting Administration submitted the “Report on Preparation for and the Establishment of TV Universities” to Vice Premiers Fang Yi and Deng Xiaoping. Deng reviewed the report and gave his approval, and radio and TV universities in China came into being. In February 1979, a grand opening ceremony for CCRTVU and radio and TV universities in 28 provinces, autonomous regions, and municipalities (excluding Tibet autonomous region and Taiwan province) was held in Beijing. This event marked the formal launch and implementation of radio and TV universities in China (Yang, 2019). In 2012, in order to adapt to the growth of the institution itself and the rapid development of ICT, the Ministry of Education gave approval for the Open University of China to be established on the basis of CCRTVU. Radio and TV universities in Beijing, Shanghai, Jiangsu, Guangdong, and Yunnan were renamed as local open universities. In September 2020, the Ministry of Education released “The Comprehensive Reform Plan for the Open University of China”, in which it clearly stated that the other 39 provincial radio and TV universities would be renamed by the end of 2020. Since then, open universities in China have entered a new stage of reform and development. A total of 21.42 million students have been admitted to the OUC (including local radio and TV universities) over the past 40 years, of which 15.62 million have graduated, accounting for 9% of all students or skilled professionals receiving higher education in China, and making up 13% of the total number of college graduates since the China’s National College Entrance Exam restarted (Cao, 2021). Over the past 40 years, the OUC has explored the practice of distance education by providing higher education access to two generations born in the 1950s and 1960s, which has helped to build a Chinese model of lifelong learning. It has made historical contributions to the popularisation of higher education, to the construction of a learning society, to reform and opening up, and to economic and social development. Today, the OUC offers 237 programmes at the diploma and undergraduate levels. It has 4.66 million registered students, accounting for 11.6% of the registered student body in the higher education sector in China. It has become a true hyper university (Daniel, 2017). In 2017, the OUC was granted the Institutional Prize for Excellence at the world conference of International Conference and Distance Education

(ICDE, 2017), and received commendation for its outstanding contributions to promoting equal access to education, improving quality and innovation in schooling and talent training, integrating ICT with education, and enabling learning outcome recognition and credit transfer through its Credit Bank Project. In April 2021, the OUC was awarded 2020 UNESCO King Hamad Bin Isa Al-Khalifa Prize for the use of ICT in education before and during COVID-19.

2. Reflecting on Difficulties and Problems

Although the OUC has made remarkable achievements in the past, it has also encountered many difficulties and problems during its development.

As an open university, it is not “fully open”. The OUC’s experience and practices over the past have enabled it to develop and enjoy valuable traditions and cultures with its own characteristics. However, these long-term traditions and cultures have also developed into a conservative mindset and a culture of bureaucracy and factionalism that have restricted innovation. For example, many staff in the OUC are afraid of change, lack market awareness, have no intention of collaborating with external enterprises, and are reluctant to share their experience with conventional universities. This does not make a positive contribution to the transformation.

Quality should be emphasized. Quality is the backbone of education, and it is critical to the survival of open universities. In 2019, the gross enrolment rate of higher education in China reached 51.6%, demonstrating that higher education has become popularised in China (Zhong, 2020). The developing trend of global higher education implies that it is not impossible for universities to be closed if quality is not stressed in the future and this could become commonplace. The OUC’s enrolment rate has significantly increased since 2015, with the recruitment exceeding 1 million in 2017, 1.2 million in 2018, 1.4 million in 2019, and 1.6 million in 2020 (data taken from internal OUC statistics). Providing high-quality education and teaching for such a substantial number of enrolled students is tremendously challenging. Although senior OUC staff are sparing no effort to emphasize the importance of quality, awareness has not generally been raised and attention has not been paid by those responsible for teaching. The need

for high quality is still not being acknowledged in areas such as tutorials, teaching feedback, assessment and examinations. This is a problem that needs to be urgently addressed.

Lack of academic excellence among teachers. There are currently 91,000 full-time teachers and 34,000 part-time tutors in the OUC system^①. However, compared with those in conventional universities, teachers and tutors at the OUC focus more on teaching than research and are not competent to solve practical problems. They do not directly interact with students as most tutorials take place online. One of the most important practice in the OUC is employing well-known teachers, however, this has not been well inherited, and it will take time to recreate and reshape such a tradition. In some provincial open universities, there is a serious lack of well-qualified teachers, and a gap is appearing between qualified and novice teachers. These have led to negative effects on the academic quality and future development of the OUC and its system.

Learning resources are not as attractive as expected. Learning resources always come first for online education whether in the past or in the future. It is not possible to build a first-class open university without high-quality online learning resources. Currently, the OUC has a huge amount of learning resources (the headquarters has more than 700 online courses, 67,000 high-quality digital courses, and 37,000 five-minute video courses), but many of these resources have not yet gained wide social recognition in the market and are not popular among learners. Some learning resources are not updated in a timely fashion, which means that they cannot meet the needs of learners with diverse academic backgrounds. Such learning resources are far from stimulating students' interest in learning. Developing practical, easy-to-understand, and abundant learning resources is a major task for the OUC.

ICT needs to be fully integrated into the education delivery process. The application of ICT is one of the prominent characteristics of open universities, and its deep and complete integration with education lays a solid foundation for all open universities. The OUC has been dedicated to delivering education via advanced and multiple technologies. However, with the rapid development of ICT and the popularity of online learning among teachers and learners, problems

① Data is quoted from the internal statistics of the OUC.

in using ICT have gradually appeared, and the ICT infrastructure has not been updated in a timely manner. The OUC should play a leading role in applying new technologies in an effort to develop a new model characterized by “Internet Plus”, otherwise, it will find it hard to develop a competitive advantage and fulfil its national mission.

Curricula should keep pace with the times. Although the OUC offers 237 programs covering 10 disciplines, including science, engineering, agriculture, medicine, literature, management, economics, and law, traditional programs account for a large proportion and many are outdated. There is a serious shortage of emerging majors. Though 10 programs have the largest number of enrolled students (administrative management, business administration, pre-school education, law, architectural engineering technology, accounting, computer information management, mechatronics, pharmacy, and nursing), their quality and reputation are not the same as those in conventional universities across the country. Programs that support the development of “new infrastructure” such as 5G, cloud computing, and the Internet of Things have not yet been designed and developed. As a result, the OUC is not playing its full role in national economic and social development.

The huge national system poses challenges to its governance. One of the OUC’s advantages is its national system extending from the headquarters to the local learning centers. There are 45 branches and more than 3,600 learning centres in the system nationwide, including the headquarters, provincial open universities, municipal open universities, and county-level learning centres. All these organizations from headquarters to learning centers deliver education to their learners with the headquarters and provincial open universities as guiding institutions. However, the boundaries between headquarters and the provincial open universities are not clearly drawn, which causes overlaps in administration and management. Open universities at different levels have different aims and objectives, for example, learning centres at the county level focus on how to survive and, municipal open universities are mainly concerned about how to survive and seek development, while transformation and restructuring are the key issues for provincial open universities. These differences create uneven levels of performance, which makes it hard to enhance the strength of the system. At the same time, the landscape of higher education is

changing dramatically in the post COVID-19 era, and the governance of the OUC system should be improved in order to accelerate the establishment of a modern university system with the characteristics of an open university.

3. Identifying Challenges and Opportunities

COVID-19 has taught universities worldwide a serious lesson and promoted the reform and reconstruction of universities. What is expected of a university and how to run a university are the most important issues facing every university leader.

2021 will be a year of great significance both to China and the world. It is hoped that we will finally conquer the pandemic and economic and social development will gradually return to normal. Higher education is accordingly entering a new stage of adjustment, adaptation, reform, and development. Like a boat sailing against the current, it is necessary to forge ahead or be pushed backward; even standing still means falling behind. In China, improving quality has become one of the main issues in the field of higher education. This is a strategic shift and one that will become a main objective and measurement indicator for universities. Universities will need to improve their development concept and model, and as a result, supporting conditions will be inevitably required for further improvement and enhancement. The OUC has a long way to go in the face of this new pattern of high-quality development. We should bear in mind that challenges must not be ignored and opportunities must not be missed. The following challenges and opportunities can be identified:

Increasing competition from conventional universities. During the COVID-19 pandemic, nearly all universities around the world resort to online learning, meaning online learning is no longer a privilege of open universities. Looking at the situation in China alone, as of 8 May 2020, 1,454 universities had started online teaching, with the online courses on offer covering all the 12 disciplines including science, engineering, agriculture, medicine, economics, management, law, literature, history, philosophy, art, and education (Ministry of Education, 2020a). Prior to this, 68

well-known universities had set up online education colleges, with more than 4 million students currently enrolled (Ministry of Education, 2020b). It is safe to conclude that the growing reform of education and teaching in conventional universities has led to many of them implementing online and continuing education on a large scale under their existing brands while still successfully running on-campus offline education.

Corporate giants are testing the waters of online education. Since 2020, because of the pandemic, a quiet online education revolution has been taking place. Schools and universities actively responded to the call for “Disrupted Classes, Undisrupted Learning and Teaching” from the Ministry of Education and promptly started online classes and tutorials. Well-known companies focusing on offline education and training immediately followed suit, migrating offline courses online and continuously improving online services. Some educational technology service companies ran online live broadcast platforms and provided free learner support services, and also helped schools and training institutions to translate offline courses to online platforms. Technology giants like Baidu, Alibaba, and Tencent, leveraging their own technology and experts, quickly started education business, integrated and developed teaching resources, provided free courses, and supplied technical services. Even some financial institutions, in the name of serving their customers, provided free courses for children education, leisure and entertainment, and career development. At the same time, some corporate universities also started to run online projects. It can be clearly seen that open universities are facing stiff competition from all directions.

People prefer high-quality education. Since China has achieved the goal of building a moderately prosperous society and won a decisive battle against poverty, people now have increased material and cultural needs and they make more frequent demands for quality education. A general idea of “access to university education” can no longer satisfy people’s desire for a better life. Many people now hope to study newly emerging and fashionable majors at a well-known or prestigious university. In particular, with the in-depth advance of the latest round of reform and opening up, the door to the outside world has opened wide and many more people are choosing to study abroad. The earlier perception of traditional radio and TV universities as being high quality, employing well-known professional teachers, and applying strict examinations and assessments

is fading, and there is a growing impression that open universities represent low-quality provision due to their low entry requirements. The OUC is facing competition not only from high-level universities in China, but also from universities abroad. In order to comprehensively enhance the OUC's influence and competitiveness, it is of top priority for the University to develop unique characteristics that are complementary to conventional universities in terms of orientation and level, while also improving its quality.

Open education qualifications carry less weight with employers than qualifications granted by conventional universities. In 2020, 8.74 million students graduated from college and universities in China (Ministry of Education, 2020c), making it the most competitive employment season in history. On the one hand, the employment market is not promising; on the other hand, employers prefer high level graduates and have a wide range of graduates to choose from. This situation can easily lead to a high consumption of talented professional. Employers have a clear preference for graduates from “985” and “211” universities (two categories of prestigious universities that have been the target of specific government projects to strengthen the education sector) in China. Despite social criticism, the increasing downward pressure on the economy and the growing number of graduates have created severe competition in the employment market. Open university graduates who may not be equally competent have been put under even more pressure. However, the OUC also faces internal pressure, including the need to update some courses and develop training capabilities. There is an urgent need for majors such as microelectronics and chip manufacturing, “trendy” majors such as artificial intelligence, big data, and cloud computing, and emerging majors such as intelligent manufacturing, smart medical care, and contactless economics, but the OUC has yet to develop any relevant courses. Furthermore, its service-oriented majors such as housekeeping, maternity care, and care for older adults have not yet gained widespread recognition. This has made it difficult for the OUC to develop efficiently.

Of course, the profound and complex changes in both the domestic and international environment have also created valuable opportunities for the OUC. First, the COVID-19 pandemic has certainly affected education worldwide, but at the same time, it has forced and promoted education reform.

In particular, the call for “Disrupted Classes, Undisrupted Learning and Teaching” has finally maximised the potential of online education and has brought about huge changes in the landscape of teaching and learning. ICT infrastructure has been greatly improved, the education field has received increased investment because of its increased audience, and education has become more inclusive. All of these factors have pushed the education industry into an era of restructuring earlier than expected. Second, the Fourth Plenary Session of the 19th Central Committee of the Communist Party of China clearly proposed the construction of an education system for lifelong learning that serves all people, emphasising the use of online education and artificial intelligence and innovative education and learning methods. It also proposed the development of a more open and flexible education system in order to build a learning society. The Fifth Plenary Session of the 19th Central Committee further stressed the importance of lifelong learning and online education, constituting the latest policy support framework for the OUC. This is both a direction and a requirement, and has offered all-round empowerment for running the OUC well. Third, in November 2019, the Central Committee of the Communist Party of China and the State Council issued the “National Medium-and Long-Term Plan for Positive Response to the Aging Population”, which clearly stated that a lifelong learning system for older adults should be built by 2022. The Fifth Plenary Session of the 19th Central Committee of the Communist Party of China also proposed the implementation of a national strategy to actively respond to aging population, and promote the development of the elderly care industry, providing a broad space for improving and strengthening education for older adults. Lastly, the Ministry of Education continues to improve relevant policies to support continuing education in the OUC. The National Credit Bank for Vocational Education has settled at the OUC. In 2021, the Ministry of Education has made “the construction of the credit bank and running the OUC well” an important task. This has provided strategic and policy support for the future development of the OUC.

Difficulties cannot be underestimated, challenges cannot be ignored, and opportunities cannot be missed. Only by aiming at trends, grasping new laws, and overcoming difficulties can the OUC seize the opportunities presented by the new round of higher education competition to achieve new development.

4. Selecting Pathways

In accordance with the “three-step” goal of promoting the modernisation of the national governance system and capabilities established by the Party and the Government, over the next 30 years, the OUC will also be made into a first-class open university using a “three-step” strategy. The establishment of a first-class open university means that the University not only ranks among the best in terms of most major indicators, but more importantly, also plays a leading role in talent training, knowledge contributions, technological integration, and serving the people. Guided by Xi Jinping’s thoughts on socialism with Chinese characteristics for a new era, the OUC will adhere to the concept of running education rooted in the vast land of China and persevere in the fundamental task of fostering virtue through education, with the aim of building an education system that serves lifelong learning for all, while also serving the national strategy and industrial development. In order to fulfil this mission, the OUC will focus on implementing the “1233” project, i.e., to build one team, to improve two capacities, to establish three systems, and to implement three major strategies. “One team” refers to a team of academic staff with an Internet-based mindset, that are loyal to the Party’s educational cause, have political integrity, and accomplish tasks firmly and with dedication. “Two capacities” refers to teachers’ capacity to identify and apply global teaching resources, and the University’s capacity to manage and govern “Internet Plus” education and teaching. “Three systems” refers to the system for online security guarantee, the system for quality assessment and supervision, and the system for innovation-driven development. Finally, “three strategies” refers to the launch of the strategy for quality improvement for degree education, the strategy for strengthening social training development, and the strategy for optimising and strengthening the Open University for Senior Citizens. Based on comprehensive policies and multiple measures, the OUC should actively adapt to the trends of digitalisation, intelligence, lifelong learning, and integration and develop itself into a major platform for lifelong learning and online education, and a platform for flexible learning and international cooperation. By doing so, it will become a major pillar of China’s lifelong education system (see Fig. 1). As Chen, China’s Minister of Education commented, “Among billions of Chinese people, we will inevitably build a learning society in which everyone is willing to learn, can learn any time, and anywhere, the OUC will be the harbour of where learning is accomplished, what they learn is useful, and learning is fun” (Chen, 2017).

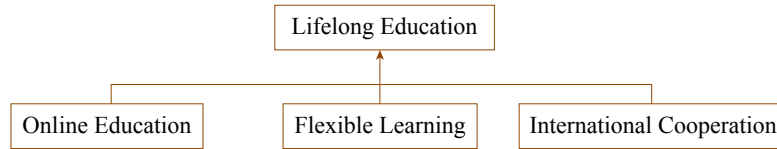


Fig. 1 The OUC's Strategies in the New Era

In order to achieve the above goals and strategic vision, four changes will be accelerated.

From Quantity to Quality. The OUC is a large university in terms of student number, however, the problem is how to increase quality. The number of enrolled degree students currently stands at 4.66 million, while the number of non-degree learners in community education, social training, and education for older adults is over 80 million. While the OUC has enough “quantity”, there is an urgent need to improve quality. The first solution is to emphasise teaching reform, which has always been a priority. The OUC’s leadership and staff should spare no efforts in improving teaching quality, with the aim of promoting the overall improvement of the University. This problem requires top-level strategy decisions. Education and teaching should be tailored for different age groups and educational backgrounds. The reform of teaching institutions should be followed by the reform of course contents, and the OUC should avoid copying the practices of conventional universities. The second solution is to expand learning resources. The OUC should develop learning resources that are practical and easy to study and which can meet the diverse demands of lifelong learners. Guided by learners’ demands and centred on courses, the overall quality of learning resources should be improved. Existing learning resources should be updated and converted to online versions. More than 700 online core courses should be improved based on strict selection procedures. 67,000 qualified courses should be improved based on integration. 37,000 five-minute courses should be classified into relevant subdivisions, and then uploaded online to make them accessible through mobile and PC terminals. The OUC will design and develop new courses in a practical, qualified, and easy-to-learn way with the aim of serving China’s national strategy. Learning resources for emerging industries such as the contactless economy should be supplemented as soon as possible, and learning resources that support the

development of “new infrastructure” such as 5G should be further expanded. Learning resources in degree education, social training, and education for older adults should be integrated, shared, and connected with the Credit Bank in order to promote the modernisation of the OUC based on the digitalisation of learning resources. The third solution is to use prestigious “golden courses” as a breakthrough to continuously improve teaching and learning. The reform of teaching, textbooks, and pedagogies should be based on curriculum design. Professors should take the lead in giving lessons and evaluating classes and tutorials. Young teachers should be motivated to shoulder more substantial tasks and engage in pioneering research with the goal of building first-class online teaching teams. There should be strict requirements placed on students, and they should be encouraged to learn through the deep integration of technology and education. The frequency and difficulty of assignments should be increased and they should be based on clear tasks. Learner support services should be strengthened in order to improve students’ self-study abilities. The final result of this should be for students to be able to realise their life goals after studying with the OUC. The fourth solution is to develop innovation by strengthening research. Teachers are encouraged to conduct research based on their teaching by improving evaluation, which guarantees the parallel development of teaching and research. Activities such as the “Doctoral Forum” and “Well-Known Teachers from External Universities Teaching at the OUC” have been implemented in order to create a strong academic atmosphere. The influence of academics on teachers and students should be enhanced. Management innovation should be encouraged and working processes should be reengineered. The OUC should be governed by a modern university system so that innovation will be the source of its reform and development. The fifth solution is to improve the internationalisation of the OUC system by working together with external parties. Drawing on the principles of mutual benefit and advancing together, the OUC system should actively go abroad to learn from and communicate with overseas universities, companies, and associations. In order to realise the internationalisation of open education and draw references from the international community, 44 provincial open universities should expand their cooperation with countries and regions along the route of “the Belt and Road Initiative”.

From a focus on qualifications to one on knowledge. This point aims to solve the issue of making education more student-centred. With Chinese higher education entering a stage of

popularisation, it is no longer difficult for people to access university education, so enhancing their knowledge has become their main pursuit. Therefore, a student-centred methodology should be strengthened by emphasising students' rights and development, which will help the OUC to win more students and realise a promising future. The first way to realise this is to strengthen the student-centred concept in practice, i.e., when making important policies, we should take students' voices into consideration. Teaching reform and student management should be invested in via human resources, financial support, and property investment. All schools and departments should serve students according to their business focus. Second, teaching should be oriented towards practical knowledge and obsolete courses and textbooks should be abandoned in favour of knowledge and skills that are in need or that can help students with their professional development. It is also necessary to integrate modern information technology with teaching so as to increase the attractiveness of textbooks, lectures, and online and offline tutorials. The aim is to create an environment in which students are willing to learn with the OUC anytime, anywhere. Third, non-degree education should be expanded. The OUC should actively support China's national strategy to respond to its aging population, enhance the concept of "spending your later years while enjoying learning", and set up learning communities where older adults can study. It is necessary to develop education for the elderly into a new area of the OUC by offering online public projects and services with offline support, such as one-stop services for healthcare, learning, and travelling. More importance should be attached to social training by cooperating with different strategic partners with an open mind, opening multiple investment channels, integrating qualified social resources, and exploring new online training models in order to establish an OUC training brand. Using these methods, social training could be one of the OUC's new growth areas.

From providing degrees to enhancing skills. We live in a skill-oriented society. The essence of workplace competition is a competition of skills. The key issue for university and teaching development is how to improve student's skills and competitiveness. First, it is necessary to update the design of curricula based on student's key skills. Key literacy and skills for each programme should be identified according to the requirements of students and society. It is also

necessary to develop courses that are urgently needed by employers and remove obsolete ones. Teaching should be focused on students' key skills, which offer important evidence for adjusting courses and designing curricula. Second, it is necessary to improve the literacy of teachers based on student's key skills so as to build more professional teaching teams. The OUC will launch the "Teaching with Well-Known Teachers" project by introducing a team of academically outstanding teachers so as to cultivate a renowned teaching team according to relevant professional requirements. Furthermore, it is necessary to improve the academic standard of young teachers based on the demands of students and the life span of subject courses. Young teachers should be given more tasks and be supported by the University in order to help them master their profession both now and in the future. The OUC will explore ways of including experts and professors in course design and development and tutoring classes so as to compensate for the shortage of academic staff with a view to improving students' problem-solving skills. Third, it is necessary to update practical teaching based on the key skills of both current and potential students. The OUC should compensate for the shortcomings of teaching in accordance with the demands of students and create conditions that allow it to work together with industries and vocational colleges. Internships should be strengthened according to the requirements of different majors, and a pilot programme for modern apprenticeships and mentorship should be explored with the aim of improving students' practical skills.

From prioritising online teaching to the integrated development of online and offline teaching. The OUC has some major problems when it comes to online delivery, such as simplistic delivery mode, unattractive content, and lack of interaction, all of which can make people feel that online delivery is inferior to F2F teaching. Therefore, online delivery should be improved through the integration with offline education. There are four aspects that should be considered if the OUC is to improve online delivery. The first is that the proportion of F2F tutorials in online delivery should be increased, and this should be an important part in the OUC's online education delivery from the headquarters to branches and the learning centres. It is necessary to extend the proportion of F2F tutorials in each major to 30% or over by allocating more teachers. The second aspect is

that it is necessary to expand methods of cooperation with conventional universities. Students can partly study courses at conventional universities, and the OUC will invite teachers from these universities to teach. Students from the OUC and conventional partner universities will be able to have more contact with their peers so that learning teams or research groups can be formed, with the aim of stimulating the interest of learning and achieving mutual improvement. The third aspect is to take full advantage of the OUC's long-term relationships with vocational colleges and further strengthen these relationships in order to set up highly effective internship training centres that enhance the OUC's practical learning offerings in accordance with the characteristics of its students. Lastly, the OUC should expand cooperation with industries and companies. Today's companies are not only knowledge consumers but also generators, and the relationship between companies and universities has never ended. In today's era, universities should learn from companies, and both parties should work together in the fields of talent training, research, and social services. Universities should find areas of cooperation on the basis of mutual benefit that are designed to deepen the integration of education and industry.

It is clear that the OUC should establish online learning communities for self-study and collaborative study using modern information technology and set up offline learning experience and service centres with the aim of integrating the online and offline learning environments. It should further develop flexible learning and implement registration for single course study by issuing course completion certificates, which will allow for flexible registration, enrolment, and learning. It is necessary to accelerate the construction of a National Credit Bank (National Qualification Framework) that recognises both informal and non-formal education and is able to accumulate and transfer credits, so as to connect degree and non-degree education without obstacles. The OUC's four major platforms and four major transformation paths in the new era are shown in Fig. 2 below.

In summary, in the future, the OUC will be developed into a major platform for lifelong learning and online education, and a platform for flexible learning and international cooperation by leveraging the four transformations discussed above.

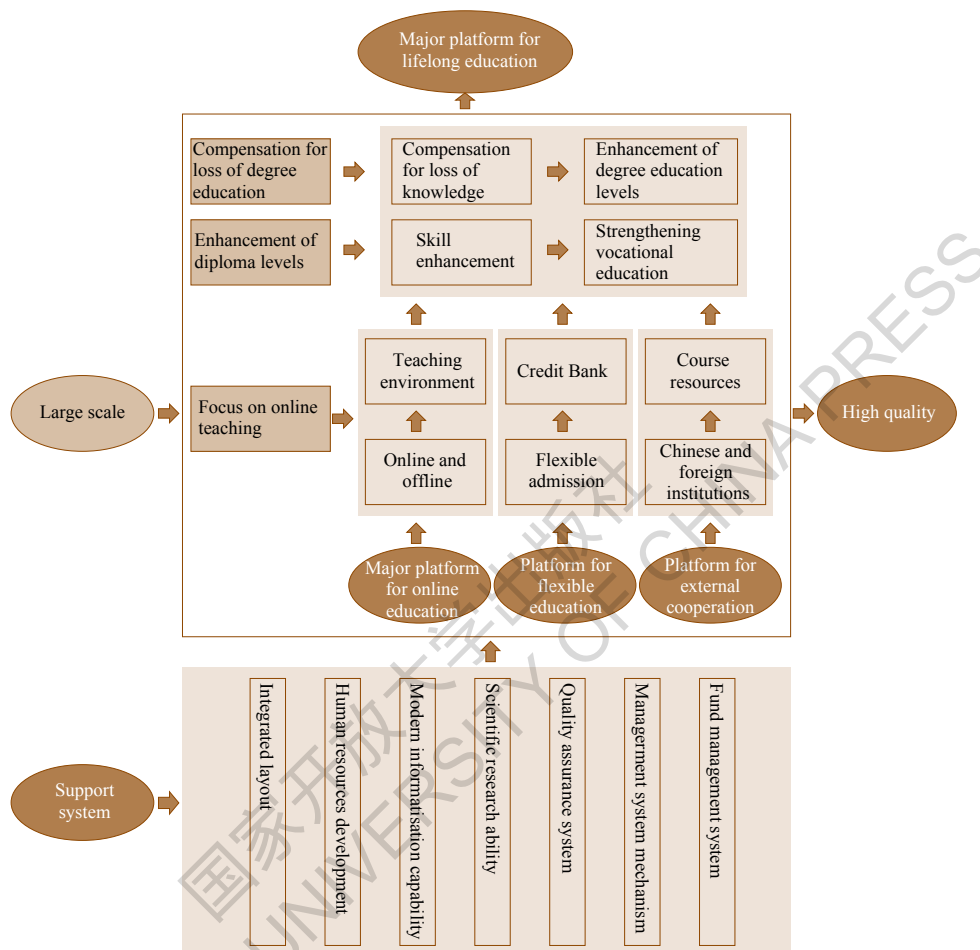


Fig. 2 The OUC's Four Major Platforms and Four Major Transformation Paths in the New Era

References

- 陈宝生, 2017. 优先发展教育事业 //《党的十九大报告辅导读本》编写组. 党的十九大报告辅导读本. 北京: 人民出版社: 337.
- 教育部, 2020a. 各级各类学历教育学生情况. [2020-12-01]. <http://www.moe.gov.cn/s78/A03/>

moe_560/jytjsj_2019/qg/202006/t20200611_464803.html.

教育部, 2020b. 介绍疫情期间大中小学在线教育有关情况和下一步工作考虑. [2020-12-01].

<http://www.moe.gov.cn/fbh/live/2020/51987/>.

教育部, 2020c. 针对高考是否推迟、大学生就业、“停课不停学”等问题, 在国务院联防联控新闻发布会上——教育部回应学校疫情防控 12 热点. [2021-02-26]. http://www.moe.gov.cn/jyb_xwfb/s5147/202002/t20200213_420702.html.

曹国永, 2021. 发展在线教育 服务人才培养. 中国高等教育, 3/4 : 25-26.

吴岩, 2020. 教育部高等教育司司长吴岩介绍秋季学期高校教育教学工作情况. [2021-02-23].

<http://www.moe.gov.cn/fbh/live/2020/52320/>.

杨志坚, 2019. 中国开放大学之路. 中国远程教育, 6 : 1-7.

钟登华, 2020. 坚定高等教育制度自信 提升服务构建新发展格局的能力和水平. [2021-02-24].

http://www.moe.gov.cn/jyb_xwfb/moe_176/202012/t20201201_502706.html.

DANIEL J, 2017. Creating an endowment for humanity: the role of universities, mega-universities and hyper-universities. [2020-12-01]. http://oasis.col.org/bitstream/handle/11599/1462/2007_DanielJ_Creating_Endowment_Transcript.pdf?sequence=1&isAllowed=y.

ICDE, 2017. ICDE Prize of Excellence winners. [2020-11-17]. <https://www.icde.org/icde-history-articles/icde-prize-of-excellence-winners>.

TAYLOR J C, 2001. Fifth generation distance education. e-Journal of Instructional Science and Technology, 4(1): 1-14.

UNESCO, 2020. COVID-19 impact on education. [2021-02-23]. <https://en.unesco.org/covid19/educationresponse>.

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS



Kwan Ching Ping Reggie

As a multi-mode university, we use innovative teaching and education technology to offer world-class education, guided by our core values of fairness, integrity, perseverance, and innovation.

Prof. Kwan Ching Ping Reggie was born and raised in Hong Kong, China and he received his BS in Computer Science, MS in Computer Science and Doctor of Education from Montana State University, Bozeman, Montana, USA. Prof. Kwan started his teaching career in Montana in the mid-1980's and reaching the rank of full professor in the late 1990's before returning to Hong Kong. He was also the Chair of Computer Science from 1990 to 1998 at Montana Technological University. He worked for OUHK (The Open University of Hong Kong) for almost eight years until 2006, initially led the Computing Team and later also the Mathematics team. He joined Caritas Francis Hsu College as the President and later also became the President of Caritas Bianchi College of Careers in 2006. In 2011, Caritas Francis Hsu College became a degree granting institute and changed its name to Caritas Institute of Higher Education. Professor Kwan returned to OUHK in 2016 as the Vice President (Academic) and became the Provost in June 2019.



The Open University of Hong Kong
<http://www.ouhk.edu.hk/>

Teaching Innovations at the Open University of Hong Kong

Prof. Kwan Ching Ping Reggie, Vice President of the Open University of Hong Kong

1. Introduction

Founded in 1989, the Open University of Hong Kong (OUHK) is a young and dynamic institution. It was awarded a university title in 1997, signifying the wide recognition of its early academic accomplishments in promoting open education. Since then, it has undergone rapid development on all fronts, particularly its programme offerings which have been greatly expanded in scope, quantity and quality. In addition to part-time and distance learning courses, full-time face-to-face programmes have also been offered since 2001. After 31 years of development, the OUHK has become a fully-fledged university that provides a broad range of undergraduate and postgraduate programmes. It currently serves about 10,000 students pursuing full-time programmes and around 9,000 part-time/distance-learning students in a city with a population of 7.5 million.

The commitment of the OUHK to quality education is embraced in its mission: statement—“To advance learning, knowledge, and research that meet students’ learning aspirations and society’s talent needs, focusing on practical and professional programmes. As a multi-mode university, we use innovative teaching and education technology to offer world-class education, guided by our core values of fairness, integrity, perseverance, and innovation.” With a concerted effort by staff in various departments in all schools within the University, innovative pedagogy and educational technology are deployed to enhance the quality of teaching and learning. This article highlights some of the relevant practices and explorations, which provide an indication of the teaching innovations in the OUHK.

This article examines the OUHK's innovative initiatives to enhance teaching and learning at three levels—first, the relevant strategic initiatives at the institutional level; next, the innovative practices initiated at the academic unit level; and then the considerations of innovative pedagogies and tools at the faculty level. After that, the OUHK's adaptive and innovative measures in teaching and learning during the unexpected circumstances brought about by the COVID-19 pandemic are highlighted, which lead to further teaching innovations in the “new normal”. Finally, the concluding section summarizes the innovative initiatives.

2. Initiatives at the Institutional Level: The Quest for Quality Teaching and Learning

The quest for quality teaching and learning has always been the focus of the OUHK, for which “new and innovative technology and pedagogical strategies are constantly being applied to further raise the quality of the teaching provided to students”. An award presentation ceremony (see Fig. 1) has been organized each year since 2015 as a formal occasion for the OUHK to recognize the outstanding achievements and contributions made by its staff members. At the ceremony, staff with an outstanding performance in teaching are presented with the President's Awards for Teaching Excellence.

In January 2019, the OUHK released its latest strategic plan, rolling out the blueprint of development strategies in the years 2019 to 2023. This plan outlines the strategic goals and areas of priority for strategic development in these five years, which are in relation to teaching, student learning experience, research, campus-building, and university administration. The first three areas are related to innovations in teaching and learning. The relevant strategic goals, as well as the initiatives and measures in these three priority areas, are delineated as follows.



Fig. 1 Award Presentation Ceremony

2.1 Premier Quality Teaching

The Strategic Plan 2019–2023 spells out five strategic goals for the OUHK’s development in these five years. In order to achieve such goals, five focused areas of priority for strategic development are identified. The first strategic goal listed in the plan is to “provide high-quality academic programmes through innovative pedagogies to meet the societal need for talent”. Accordingly, “premier quality teaching” is recognized as the first focused area of priority, stating an emphasis on innovative and student-centred approaches to teaching and learning. Initiatives and measures in this area involve the enhancement of pedagogy, an emphasis on student-centred teaching and learning, and a review and development of the curriculum.

The initiatives on enhancing pedagogy aim mainly to raise the academic quality of the teaching staff and foster a collaborative teaching environment. Relevant measures, such as “exploring

various pedagogical initiatives to improve educational delivery” (The Open University of Hong Kong, 2019a)¹⁹ and “identifying and sharing innovative pedagogies and educational technology to enhance teaching and learning among academic staff” (The Open University of Hong Kong, 2019a)²⁰ are of particular relevance to teaching innovations. With reference to these initiatives, the OUHK has already begun to leverage its experience in the development of learning resources to enhance content delivery (see Section 3). Also, academic staff are encouraged to share their research and practical experience on innovative teaching, and given platforms to do so (see Subsection 2.3 below).

2.2 A Rewarding and Fulfilling Learning Experience

The second and third strategic goals are to “enrich our students’ learning experience, both within and beyond the curriculum, for personal and career development” and “encourage students to participate in mainland and overseas exchange activities to understand more about their country and to broaden their international horizons”. “A rewarding and fulfilling learning experience” is therefore identified as the second focused area of priority, in which there are initiatives and measures to “enhance student engagement and development” (The Open University of Hong Kong, 2019a)²⁵ and “broaden student exposure to the world beyond the classroom” (The Open University of Hong Kong, 2019a)²⁷.

In particular, two measures in this area are related to innovations in teaching and learning, namely integrating co-curricular and extra-curricular activities into the undergraduate curriculum, and expanding offshore study tours as well as exchange and immersion programmes (see Fig. 2). The OUHK plans to inject HK\$100 million over these five years into this priority area. In addition to the recruitment of academic staff, the funds will be used to support students’ participation in study tours, overseas exchange and internships, external competitions and other academic activities (The Open University of Hong Kong, 2019b)⁵.



Fig. 2 Demonstration of Virtual Reality on Teaching to Provide Students with Fulfilling Learning Experience

2.3 Research Capacity Enhancement

In pursuit of the strategic goal to “nurture an environment conducive to academic research to complement teaching and learning”, “research capacity enhancement” is one of the focused areas of priority for strategic development. Emphasis is placed on ensuring that initiatives and measures are conducive to the professional development of academics (Li et al., 2020). Initiatives/measures in this priority area focus on encouraging research capacity in niche areas as well as enriching research programmes and a research culture. With the aim of informing teaching, the measure focusing on applied research to complement course offerings is of particular relevance to teaching innovations.

Research institutes and academic units in the OUHK are active in developing their research

capacity on teaching. The Institute for Research in Open and Innovative Education (IROPINE) organizes its annual International Conferences on Open and Innovative Education (ICOIE) for OUHK academics and researchers from different parts of the world to disseminate their research results and exchange ideas on innovative teaching (see Fig. 3). Experts in relevant research areas are invited to update conference participants on the latest developments in the field. IROPINE also organizes regular seminars on innovative teaching for OUHK academics to enhance their research capacity.



Fig. 3 Opening Ceremony at the International Conference on Open and Innovative Education

As another example, the Research Institute for Bilingual Learning and Teaching (RiBiLT) conducts research on how to enhance language teaching. Academic staff of the School of Nursing and Health Studies also design and study innovative and effective means for their teaching on an ongoing basis. Academics specialized in these two areas actively disseminate their research results through paper presentations in local and international conferences as well as publications in academic journals and edited books.

3. Initiatives at the Academic Unit Level: Enhancement of Learning Experience

To offer quality education, the OUHK engages itself in developing innovative ways of teaching and learning. Thanks to the expeditious advances in technology, flexible and innovative approaches to teaching and learning are now easier than ever. While not intended to be exhaustive, this section examines a number of innovative practices initiated by academic units, or Schools. There are six Schools, each of which focuses on delivering study programmes in their disciplines.

3.1 Enhancing Content Delivery

The OUHK offers both distance learning and face-to-face learning programmes. To support student learning in different modes, the University has been delivering its courses through a variety of media, including printed materials, an online learning environment, multimedia components, and face-to-face tutorials.

3.1.1 Electronic Course Materials

Fully digitized e-versions of course materials are available along with the print versions (Anon, 2015)¹³ (see Fig. 4). In other words, students are able to access all their course materials online with their personal devices. They can thus study at their convenience anytime and anywhere, either on-screen or offline after downloading the electronic materials. In addition to convenient and flexible learning, this initiative also enables more efficient learning as students are able to directly access related readings, external websites and/or audio-visual content by clicking on the links in the e-materials.

3.1.2 Customized Textbooks

In order to reduce the time and financial costs of developing self-contained study units and take advantage of the pedagogical features in commercial textbooks (e.g., case studies, and formative and summative tests), a new approach to developing course materials has been adopted. This approach, in which textbooks in the market are used as the key learning materials for four courses,

was first piloted in the School of Business and Administration in 2015 and 2016. Specifically, book chapters from one or more textbooks were selected and compiled into a tailor-made textbook for a course. In addition to the customized textbook, a study guide was developed by the course team to provide students with an overview of the course, directions for reading the textbook, supplementary discussion, learning activities and self-tests. After a successful trial, customized textbooks with supplementary study guides and multimedia learning materials are now produced for both full-time and part-time students (The Open University of Hong Kong, 2019b)⁵.



Fig. 4 Digitized Course Entry Screen

3.2 Promoting Mobile Learning

For two decades, the OUHK has been using its self-developed online learning environment (OLE) to support teaching and learning. In addition to delivering course materials, the OLE also serves administrative and communication functions. In view of the popularity of mobile devices, the OUHK has made a concerted effort to promote mobile learning among students.

3.2.1 OUHK iBookcase

In 2017, the OUHK launched its in-house developed mobile application “iBookcase” for enabling students to learn anytime and anywhere (see Fig. 5). This App, which is available for both smartphones and tablets, can be downloaded for free from App Store and Google Play. Students in both full-time and part-time programmes are able to access materials for the courses in which they have enrolled after downloading the App and logging in. In the three years since its inception, over 20,000 students have used iBookcase for mobile learning (The Open University of Hong Kong, 2020a). The key features of the App include the following.

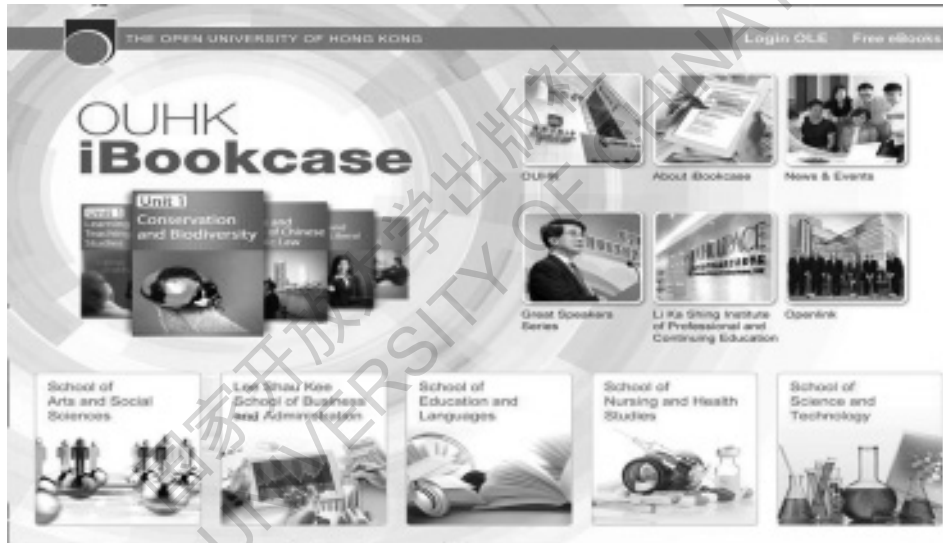


Fig. 5 iBookcase Portal for Mobile Learning

- **Notifications for students:** Students can receive important course alerts and reminders sent by the OUHK periodically (e.g., assignment due dates, and examination and class schedules).
- **Synchronization with the OLE:** Materials in students' courses will be synchronized with the OLE when there is an Internet connection, and so students can download the materials to their devices for offline reading.

- **Study tools:** Study units in ePub format provide a package of learning tools to facilitate learning, containing for example a built-in dictionary, highlighting and note-taking, book-marking, and text-to-speech functions.
- **Interactive features and multimedia content:** Study units in ePub format contain interactive features such as instant answer-checking and feedback. Video and audio components are also included in certain courses (e.g., language courses).
- **Online quizzes and polling:** Students can participate in timed online quizzes and polling via the OLE or iBookcase (e.g., quizzes or polling conducted during class).
- **Lecture recording:** Video clips of lectures are available for students to view through streaming.

3.2.2 Mobile Learning Applications

In 2012, four mobile learning modules were developed for students to enhance their language skills, namely *English for Effective Communication*, *Business Communication for Executives*, *Use of Chinese Language* and *Use of Putonghua*. The content of these modules was designed in an interactive way, with multiple formats, including text, audio and video. Students can access the contents either through links or graphical text boxes, i.e., in either a systematic manner or a random sequence. In addition, various types of games were incorporated into these modules for students to “grasp new information, retain prior knowledge and consolidate their learned knowledge” (Yuen et al., 2014)³⁹⁵. At present, five language enhancement Apps (i.e., the above four modules and *English Writing Skills*) are available to all students, with features such as real voice pronunciation, real-life examples, and interactive exercises (The Open University of Hong Kong, 2020b). See Fig. 6.

In addition to language enhancement, there is also a mobile learning App developed for nursing students. In 2018, the School of Nursing and Health Studies launched the “Health Assessment: Cardiovascular System” App to complement the content of lectures (see Fig. 7). This mobile learning App consists of six units to help nursing students to revisit concepts in cardiovascular health assessment they have learned, with features such as interactive activities, video clips, animation and photos, as well as self-evaluation^①.

① New mobile app for nursing students, 2018. Openlink, 27(3): 13.

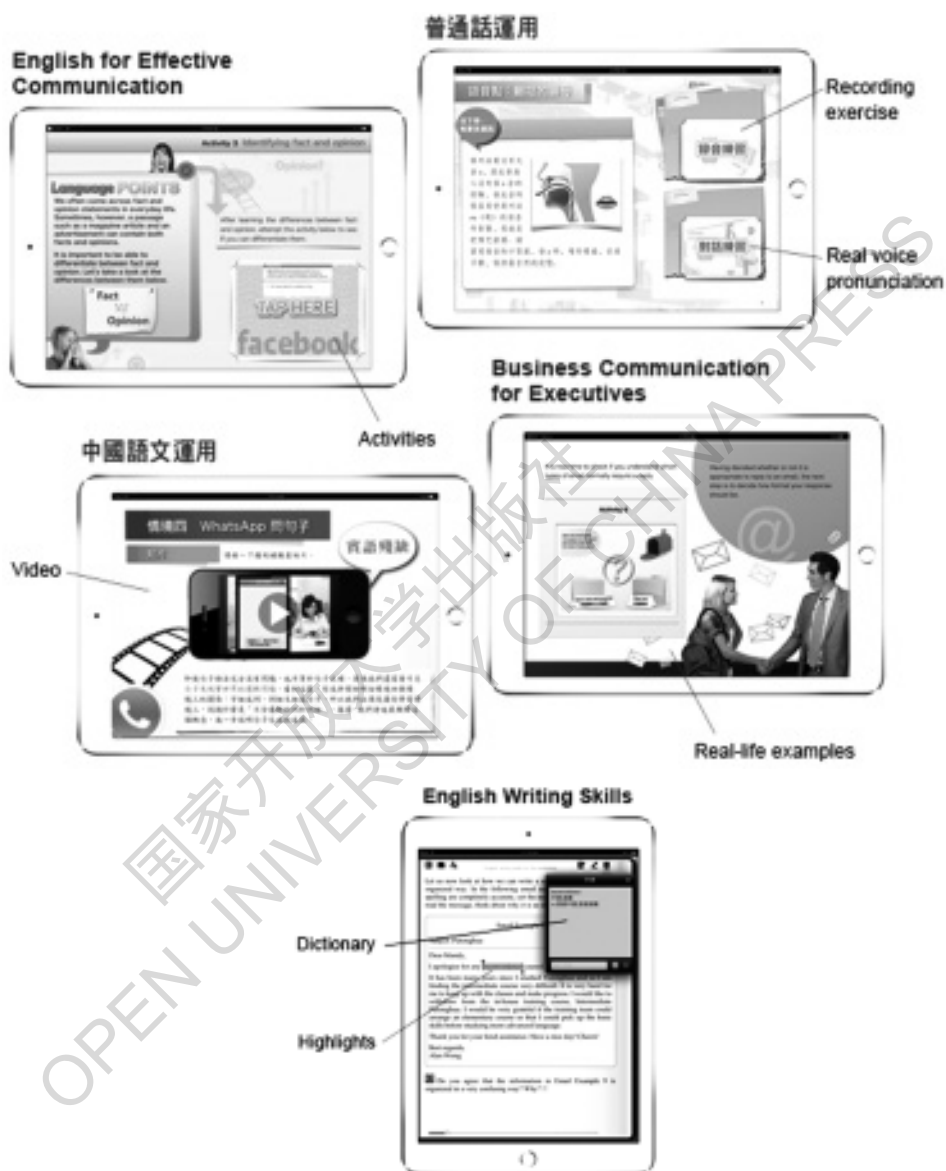


Fig. 6 Mobile Learning Modules for Facilitating Teaching and Learning

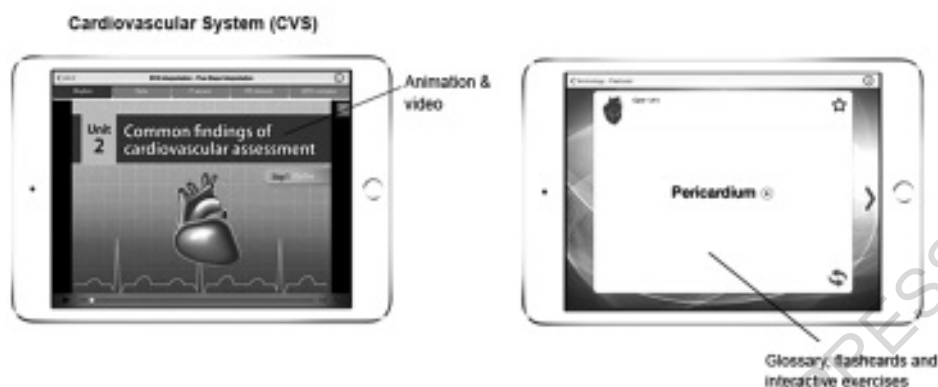


Fig. 7 “Health Assessment: Cardiovascular System” App

The University has also developed mobile Apps to facilitate classroom teaching and learning. For instance, the “Student Response System” is a mobile quiz system for in-class use by OUHK students (The Open University of Hong Kong, 2020b), which uses assessment for learning (Kwan et al., 2008) to encourage student participation in large classes and enables instructors to monitor the learning progress of each student (see Fig. 8). Specifically, students can submit their answers to the quick quizzes conducted during the class and view the correct answers and corresponding statistical charts for the whole class instantly.

3.2.3 Mobile Learning in Clinical Practicums

The OUHK is one of the institutions which have introduced nursing education degree programme in Hong Kong, with mobile learning having been introduced into nursing education since 2003. In the early years, each nursing student was given an iPod Touch for use in clinical practicums and later the device was generally replaced by the more versatile iPad mini.

Mobile devices are compulsory tools for students on practicums, which serve two main purposes (Charm et al., 2015). Firstly, the device is a handy reference tool for students to access relevant information. There is a video App in which nursing video clips with step-by-step demonstrations are categorized into different areas for easy reference (The Open University of Hong Kong, 2020b). Students are expected to carry the device in their uniform pocket and use it to view the

videos whenever they feel uncertain about any nursing procedures.

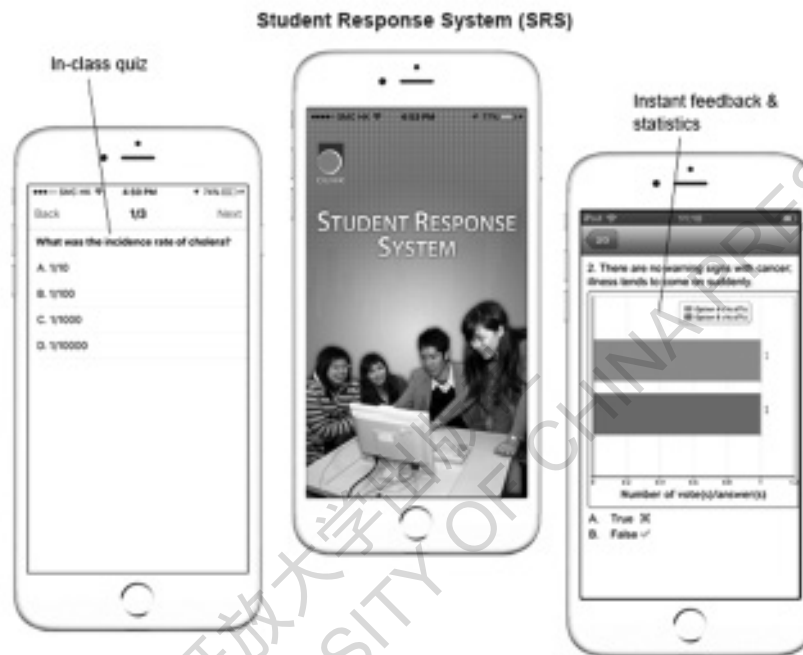


Fig. 8 Student Response System

Secondly, the mobile device is used as an assessment tool for the practicums. The “Mobile Assessment System” App serves as an electronic record for students to document the activities they have undertaken during a practicum (The Open University of Hong Kong, 2020b). This App contains a list of assessment items for the students’ clinical assessors to rate their performance. After the rating, students should record their competence level for each item, communicate with their mentors for further feedback, and upload the results to the system for a review of their own learning progress and monitoring by the course coordinator of the programme. This App may therefore “enhance the efficiency of clinical assessment, facilitate communication between students and their mentors, and enable the students and the course coordinator to keep track of the students’ learning progress effectively” (Li et al., 2019)²⁹⁵. See Fig. 9.



Fig. 9 Nursing Video App (Left) and “Mobile Assessment System” App (Right) for OUHK Nursing Education Degree Programme

3.3 Adopting Innovative Educational Technology

Technological development has produced many new possibilities. In the field of education, advances in technology have enabled educational institutions to adopt more innovative approaches. The OUHK has always used innovative educational technology to enhance its teaching and learning. For illustration, the teaching innovations initiated by the School of Nursing and Health Studies may offer important examples of the use of advanced technologies for teaching and learning enhancement.

3.3.1 High-Fidelity Simulation for Clinical Training

In 2008, the Clinical Nursing Education Centre was established, in which simulation has been incorporated into clinical training. The Centre contains four specific education units, among which the clinical simulation education unit provides nursing students with a simulated clinical environment to practise their clinical skills. The “Simulation Area” of this unit closely resembles a real hospital ward, equipped with four high-fidelity simulators. Supported by highly sophisticated

computer software, these simulators are able to produce the physiological and pharmacological responses of human patients. Further, these simulators can be programmed to simulate a variety of complicated or rare clinical scenarios (Anon, 2013)² (Lee et al., 2010).

High-fidelity simulation training provides a well-controlled and safe simulated clinical environment for nursing students to enhance their clinical skills and ability to manage various clinical situations they may encounter in real contexts in the future. Notably, the facilities enable students to practise clinical work as if they were taking care of real patients. Since the simulators can provide immediate and corresponding physiological responses to the students' practices, interactions with simulators allow students to easily comprehend the impacts of their practices on a real patient (Lee et al., 2010). Students can practise repeatedly different common and rare clinical scenarios, which can enhance their clinical skills. See Fig. 10.



Fig. 10 Students Conducting High-Fidelity Simulation Training at the Clinical Nursing Education Centre

3.3.2 Application of 3D and Virtual Reality Technology in Nursing Education

The School of Nursing and Health Studies was the first in Hong Kong to incorporate 3D and virtual reality (VR) technology into nursing education. The School started to adopt 3D technology for teaching anatomy and physiology courses in 2015. In addition to having 3D projectors and 3D TVs installed in lecture theatres and tutorial rooms, computer software with a built-in 3D model of various organs or systems in the human body has been purchased to demonstrate the 3D structure of various human organs and systems. In order to better explain the physiological concepts, the School has also developed 3D videos to help students understand the structural and functional relationships of human organs (Yau et al., 2019).

VR technology was also first applied in 2015 for training psychiatric nursing students' skills in mental health care and suicide risk assessment. The immersive VR learning environment allows students to interact with virtual patients in a quasi "face-to-face" manner and practise their skills in clinical assessment (Lau, 2019) and managing various mental health scenarios. Also, VR-based software has been used for teaching anatomy since 2018, serving to help students overcome their difficulty in visualizing 2D images for anatomy teaching (Lam et al., 2019). For example, there is a kind of software that allows students to travel into the blood vessels of the human body for a better understanding of the cardiovascular system (Yau et al., 2019).

In early 2019, the School of Nursing and Health Studies introduced two of the latest VR technologies to the nursing curriculum, and was the first tertiary institution in Hong Kong to use such technologies in nursing teaching. The first of these was the Digital Virtual Dissection System, which is an anatomy training aid that displays the human body structure at a 1:1 ratio on the basis of authentic cadaver dissection images. This system not only allows students to perform unlimited dissections across multiple layers for a better understanding of the human body structure, but also contains a database of pathological cases and images for students to enhance their knowledge of pathology. The second one is the VR Cave Learning System, which is an immersive VR system that allows multiple users to enter the same simulated scenario and interact in a lifelike environment. This system simulates scenarios that are difficult to duplicate in the conventional classroom setting, and provides opportunities for students to experience and apply what they have

learned (Anon, 2019)³¹. See Fig. 11.

3.4 Broadening Student Exposure

The OUHK has been making an effort to supplement teaching with different kinds of experiential learning opportunities for enriching students' learning experience. Schools and the Student Affairs Office have sought diversified internship opportunities for students to broaden their horizons. A range of overseas exchange programmes and study tours have also been organized for students to gain a wider exposure. At present, every School in the OUHK has its own study tours and exchange programmes. It is noticeable that the School of Education and Languages and the School of Business and Administration have integrated overseas exchange elements into their curricula. As illustrative examples, these two programmes are briefly described as follows. See Fig. 12.



Fig. 11 VR-Based Software for Teaching Anatomy

3.4.1 The English Language and Culture Immersion Programme

The English Language and Culture Immersion Programme is a three-week regular summer programme organized by the School of Education and Languages in collaboration with the Centre for Applied Linguistics at the University of Warwick. The programme focuses on developing intercultural understanding of language students. An integral part of the programme is the homestay arrangement, which enables students to experience living in the United Kingdom (UK). In addition, the programme usually includes seminars and workshops on cultural aspects of the UK and cultural visits to famous sites^①. Since the summer of 2017, the programme has been extended into a credit-bearing course for students taking English Language Studies and English Language Teaching (Anon, 2018)³.

① The Open University of Hong Kong. Four years: a fast track to your teaching profession. [2021 - 01 - 19]. http://www.ouhk.edu.hk/REG/reg_ftae/website/E&L_Leaflet.pdf.



Fig. 12 Group Photos of Overseas Exchange Programmes and Study Tours

3.4.2 The Global Immersion Programme

The Global Immersion Programme was launched by the School of Business and Administration in the academic year 2017–2018 to enhance students’ international exposure. This programme is compulsory for all full-time undergraduate and postgraduate students in the School. The Undergraduate Global Immersion Programme is comprised of four non-credit bearing courses, which aim to “enhance students’ intercultural awareness and communication skills, and help students to develop a global mindset” (The Open University of Hong Kong, 2020c). These courses

include language training, seminars, workshops and, most important, overseas study tours and a two-week placement at prestigious universities in countries such as the UK, the United States, Australia and Japan (Anon, 2018) (The Open University of Hong Kong, 2020c). Fig. 13 shows website for the Undergraduate Global Immersion Programme.



Fig. 13 Website for the Undergraduate Global Immersion Programme

4. Initiatives at the Level of Teaching Staff: Exploration of Innovative Pedagogies and Tools

OUMHK academic staff are active in conducting research on various fronts. A number of them are devoted to research which informs teaching practice, and they disseminate their research progress

and results through presentations in conferences or publications in scholarly journals and books. While not intended to be exhaustive, this section introduces several studies on innovative teaching that have been undertaken by OUHK academics.

4.1 Use of Innovative Teaching and Learning Methods

Some fruitful explorations of the use of innovative teaching and learning methods have been performed by academic staff of the OUHK. Below are a few relevant experimental practices conducted in the teaching context of the University, in which technology has been incorporated into the delivery of face-to-face courses.

4.1.1 Blended Learning in the Teaching of Presentation Skills

A blended learning approach has been adopted since 2013 to deliver the course *Presentation Skills*, which is a 13-week course for full-time undergraduate students. This course was originally taught wholly by traditional teacher-led face-to-face lectures and tutorials. A major problem encountered by the lecturer was that topics such as the use of body language, facial expressions and vocal skills could hardly be effectively taught in a lecture room with a class of more than 100 students.

In order to encourage active learning by students, an attempt was made to change the course into a blended learning mode. While 70% of the course remains to be taught by face-to-face lectures and tutorials, 30% is delivered online through “video lectures, recorded presentations with commentaries, brief study questions, and the discussion board” (Tso, 2014)^{74–75}. In addition, there are interactive online writing activities on the Wiki. Students are asked to share their written assignments on this platform, where their classmates in the same tutorial group can read them and give comments, and the tutor can also provide instant feedback on their work.

As shown in the results of a survey, students’ views on the introduction of blended learning were largely positive. The online videos, peer discussion, Wiki learning activities and instant tutor feedback were found to be helpful in improving students’ learning and understanding of the course content. Students’ learning experience was enriched, particularly through their connections with

fellow classmates, the lecturer and the tutors.

4.1.2 A Student-Generated Video Project in an *Operating Systems* Course

A pilot study was conducted in 2015 to blend digital video storytelling into the course *Operating Systems*, which is a 13-week undergraduate course with over 180 students. This course includes many concepts and principles that are abstract and dynamic, and thus may be difficult to learn. To engage students more in analysing the concepts and processes of operating systems, a student-generated video project was implemented.

Teams of four students are required to produce a short video footage in a period of 10 weeks, which contributes to half of the continuous assessment score. Students are given freedom to select the theme of their videos, which should either be an explanation of a topic covered in the course (and its related processes and issues) or a comparison of algorithms or models. Students are reminded of the importance of educational value as an assessment criterion and are recommended to use real-life analogies for illustrating abstract concepts. In addition, they are given incentives (i.e., bonus marks, cash prizes and certificates) to produce a video that is able to facilitate the learning of their peers.

This project, which was regarded as successfully designed and implemented, “turns students from media consumers into media producers, and consequentially motivates them to take control of their learning process” (Lui et al., 2015)²⁴⁴. The results of the evaluation survey showed that students were able to demonstrate mastery of the concepts in operating systems. Students’ perceptions were also very positive—the majority of students found that the project enhanced learning, and was enjoyable and suitable for the course.

4.1.3 Mini-Lectures Interleaved with Exercises in a Computer Science Course

A new approach to interleaving mini-lectures and student exercises has been introduced in the undergraduate computer science course *Distributed Systems* (Au, 2020). This course was originally taught through two-hour lectures and two-hour laboratory sessions in a face-to-face mode. Since the classes went online, alternating mini-lectures and lab exercises have been held, with the aim of improving student attentiveness.

Under the trial implementation of this new format, the class switches between online lecture presentation and programming exercises every 20 minutes. After an online lecture presentation, students are asked to solve a computing problem described by the professor, which requires them to apply the newly taught concepts and language features. The professor initially used text messages to track student progress but found this to be ineffective. Polling was then adopted, in which a few checkpoints were listed and students just needed to click on the poll when entering the next stage. The professor was thus able to view students' learning status and provide hints or make the exercise easier when many students made insufficient progress.

An evaluating of this new approach found that many students felt it was more helpful in improving their programming skills than the conventional format with separate lectures and laboratory exercises. (This new format was preferred by half of the respondents, whereas only 18.8% preferred the conventional format.) Most of the respondents considered that their interest in learning had improved with the new class format.

4.2 The Development of Technological Tools

Other than innovations in instructional design, efforts have also been made to develop teaching and learning tools for enhancing student learning. The following sections cover a few relevant explorations by OUHK academics, which are technological tools for supplementing students' formal learning.

4.2.1 Mobile Application to Support In-Class Teaching and Learning

A mobile App called "ClassS" was developed to facilitate in-class teaching and learning (Ng et al., 2019). This App was designed to enhance the efficiency of attendance-taking and encourage more in-class interaction, for which an automated roll-call system and an interactive activity system are included.

The roll-call system features a double authentication by using facial recognition and Wi-Fi positioning technologies. After logging in, the App processes an automatic roll-call and displays the student's location. The Raspberry Pi camera in the classroom keeps on capturing students'

images and sends them to a cloud server for authentication and confirmation of the student's attendance. Each attendance-taking is valid for 30 minutes and the student should be recognized by the Raspberry Pi again for re-confirmation of attendance. On the other hand, the interactive activity system allows students to complete in-class exercises and discuss topics posted by the teacher, while the teacher can comment on students' work and keep track of their progress. In addition, the system contains a Wish Tree function for students to submit questions and opinions to the teacher.

The results of an evaluation by potential users were largely positive. All the student participants were satisfied with the roll-call system in terms of efficiency and effectiveness. Most of the participants agreed that the interactive activity system could facilitate their communication with the lecturer, and also considered the App to be attractive and easy to use.

4.2.2 A Mobile Application for Learning Java Through Games

A prototype of a mobile App for learning Java called "Java3in1" was developed for students to learn and consolidate technical skills in Java programming (Wong et al., 2020). Unlike the traditional learning method where students can only practise Java programming with desktop computers and can get bored easily due to writing and debugging source codes repeatedly and individually, this App allows students to play the gamified Java tutorials either individually or with their classmates anytime and anywhere.

This App is composed of tutorial components and three serious games. Through interactive interfaces, students can study the Java tutorials with different levels of content, and they can study the tutorial notes before and/or after playing the games. For the three serious games, (1) the Interview game requires users to answer several questions on basic concepts of Java (with three levels of difficulty and hints) which are mainly multiple-choice questions; (2) the GUI puzzle game requires users to select the correct pictures as answers to questions about Java GUI design concepts; and (3) the Java Monopoly game is a cooperative game for two users to answer as many questions as they can to move the chessman from the starting point to the end point, and players should discuss among themselves to get high scores.

The results of the user survey were generally positive, with most of the participants being satisfied with the App. The majority of users agreed that the App can improve their learning of Java programming, and the user interface is user-friendly. In particular, most of them agreed that playing games individually and in groups helps them to learn and practise Java programming effectively. Fig. 14 shows tutorial notes for the “Java3in1”.

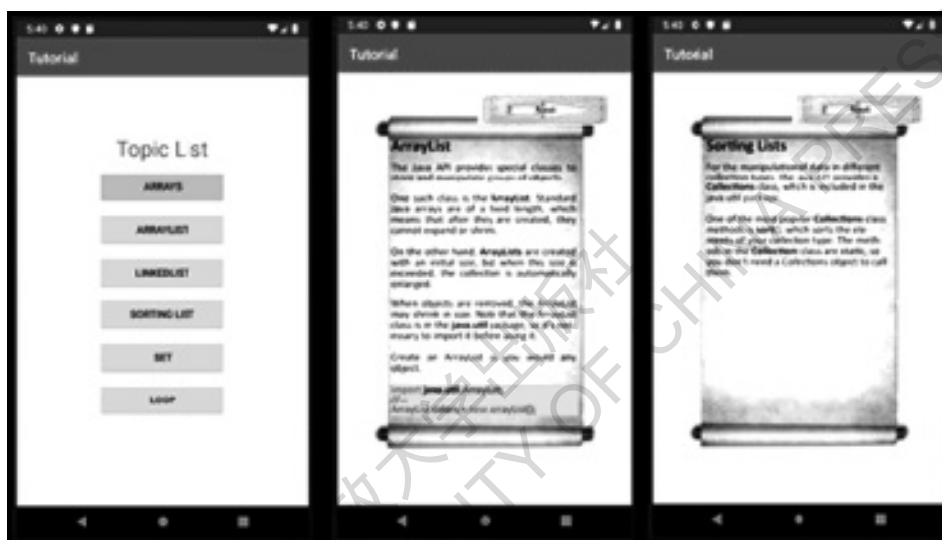


Fig. 14 Tutorial Notes for the “Java3in1”

4.2.3 Online Problem-Solving Exercise Generator

An online tutoring system based on worked examples and problem-solving exercises was provided as a supplement to the course *Operating Systems* in 2018 (Lui et al., 2018). This system was called “ASolver”, and was developed for students to create and attempt exercises in algorithms. ASolver is used by students on a voluntary basis as no formal learning activities have been based on it.

ASolver was implemented as a web application. It covers seven topics, which are structured into 12 problems. Each user is allowed to generate at most 15 exercises for each problem. These problems are made available in ASolver according to the course schedule. The functions

of ASolver included (1) the creation of new exercises; (2) the checking of submitted answers; (3) sample solutions for exercises; and (4) a review of created exercises. User interaction data are recorded by ASolver, covering the time of major user interactions (e.g., exercises created, and answers submitted), whether the answers are correct and if any exercises have been skipped or ignored.

ASolver was found to be well received as a “practising tool for assessment” (Lui et al., 2018)⁹³. Students’ level of engagement was particularly higher in the days leading up to quizzes; and most respondents to the user perception survey indicated their use of the system in preparing for quizzes or examinations. It was also found that while strong students tended to be motivated to complete more exercises, weak students left more exercises unattempted. The provision of a “Skip and View Solution” button can therefore help the weaker students to benefit from the system.

4.2.4 SQL Learning Mobile Application with Blended Learning

A prototype of a mobile App called “SQL Rookie” was developed to enhance students’ SQL skills (Wong et al., 2019). This App is designed to incorporate blended learning into a face-to-face course in relational databases, aiming to make student learning more flexible and efficient. Both the students and teachers are the target user groups for this App.

Through the interactive graphical user interfaces of this App, students can study SQL tutorials and complete the related quizzes, which are arranged according to different levels of difficulty. The quizzes are in multiple-choice formats, and students are required to complete each quiz in 10 minutes. Correct answers are provided after the quiz is completed or timed out. Students can attempt each quiz three times, and only the highest score is counted. The results of the quizzes can be viewed by both students (their own scores) and the teacher (scores of the whole class and individual students). The teacher can send notification to students who have not submitted the quiz or whose progress is poor. In addition, there is a discussion board that both the teacher and students can access, for creating and reading posts.

The student and teacher users were generally satisfied with the App. Most of the student participants considered the interface to be user-friendly and agreed that learning SQL with the

App is efficient. At the same time, the teacher respondents also agreed that the App could help them keep track of students' progress and identify those who need learning support.

4.2.5 Chatbot for Instantly Answering of Students' Questions

A chatbot was developed for instantly answering of students' questions on an introductory networking course (Lee et al., 2020). This chatbot, which was called "Infobot", was able to answer students' questions on a number of common social platforms such as Telegram, Facebook Messenger and Line.

On the basis of the course-related information uploaded by the teacher to the Firebase database, Infobot can instantly answer students' questions about the course. It can handle questions in natural language and commands. The questions to be answered are mainly on two aspects. The first is course logistics information such as class schedules, the venues of tutorials, examination details and due dates for coursework. Students log in to receive the schedule of their own tutorial group and their coursework scores. The second is course materials, for which the returned answers might be the definition of a term, a diagram/figure, an equation, follow-up question, or a pointer to the course materials. In addition, students can take a self-test on the course materials in the form of multiple-choice questions.

In the preliminary evaluation, the majority of the student participants agreed that Infobot was a useful tool in learning, which helps to solve problems in real-time and provides a quick recap on course materials. All of the respondents strongly agreed that Infobot was a quick tool for checking coursework scores and agreed/strongly agreed that it was easy to use. On the whole, most of the respondents agreed that Infobot was an effective tool as an online tutor. Fig. 15 is the screenshots of "Infobot".

4.2.6 An Integrated Framework for Personalized Vocabulary Learning

An integrated framework to build a powerful learner profile for personalized vocabulary learning was proposed, aiming to enhance word learning by English as Second Language (ESL) students (Wang et al., 2018). In particular, both the implicit and explicit learner profiles were leveraged to depict individual vocabulary proficiency.

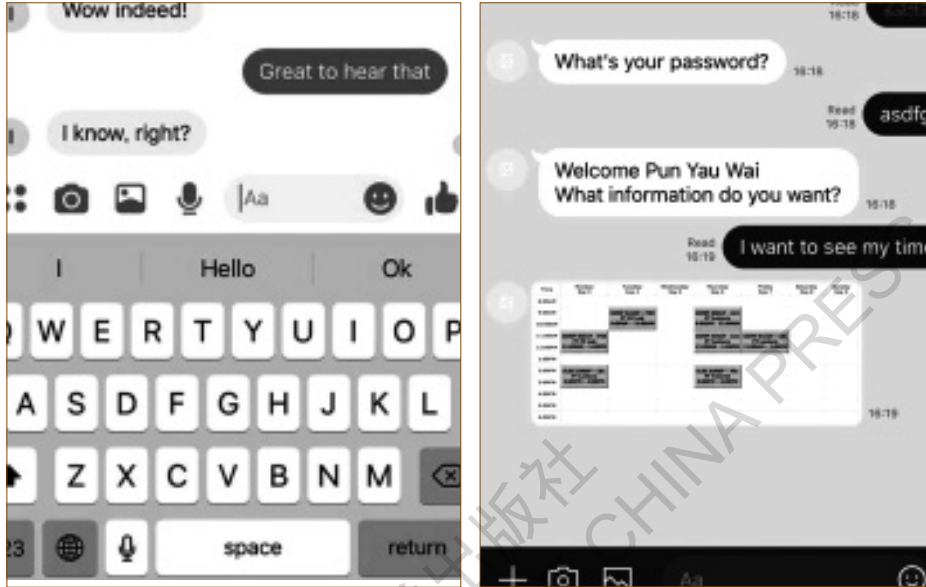


Fig. 15 Screenshots of “Infobot”

There are two main kinds of profiling techniques for personalization, which include explicit and implicit user profiling. Explicit profiling allows users to specify their vocabulary proficiency; implicit profiling acquires the proficiency level from external sources (e.g., vocabulary test results) without users' explicit input. The proposed integrated framework consolidates these two profiling techniques to build a learner profile. Since learners' knowledge levels will change when they use the system for vocabulary learning, a mechanism to update the learner profile was proposed, taking factors including time and the correctness of answers into account. Finally, in suggesting a personalized sequence of learning tasks, the concept of word coverage was used to identify tasks that contain words unfamiliar to learners.

As revealed in the results of a preliminary experiment, the average score of the experimental group in the post-test was significantly higher than that of the control group. The effectiveness of the proposed integrated framework in reflecting more accurately learners' vocabulary proficiency was validated.

5. Latest Developments: Prompt Reactions During the COVID-19 Pandemic

The normal arrangements for teaching and learning have been abruptly changed since the summer of 2019. First came the massive social unrest, and then the outbreak of the COVID-19 pandemic, which led to the suspension of classes. As an adaptive measure, the OUHK switched face-to-face classroom teaching to the online mode to keep student learning going. This section provides an overview of the teaching and learning arrangements in such extraordinary times.

5.1 Asynchronous Online Learning

In response to the suspension of face-to-face classes, asynchronous e-learning was first adopted in November 2019, in which students could study online at different times by the means of lecture video recordings, online quizzes and discussion forums. The OUHK has provided a variety of technological tools for teachers to record their lecture videos (e.g., a classroom recording system, Office 365). All the lecture videos were uploaded to the OLE for students to access. Teachers might add class activities such as polls and quizzes to their online lessons to enhance interactivity and student engagement. Alternatively, teachers might use online quizzes for assessing learning. The online quiz feature on the OLE allows teachers to customize their online quizzes by the start and end date and time, as well as answer options.

5.2 Synchronous Online Learning

Real-time face-to-face online classes were introduced in early 2020 with a view to improving in-class interactivity between teachers and students. A number of real-time conferencing tools had been tested and Zoom was finally adopted by the OUHK because this tool could be well integrated into the OLE. When the tool was first adopted, teachers had to create the Zoom classes and send the links to students via email. Later, the scheduling process of Zoom classes was automated and integrated into the OLE, which allowed teachers to create Zoom classes much more quickly. A few examples of synchronous online teaching and learning are provided in subsection 5.4.

5.3 Hybrid Delivery

With the COVID-19 somewhat under control, the OUHK started the “hybrid approach” in the autumn of 2020. All tutorials provide both face-to-face in classrooms and lecture halls plus online through Zoom simultaneously. Instructors deal with both groups of students concurrently. Upgrading over 100 classrooms and lecture halls during the summer months made this provision possible. However, this has put a lot of stress on all instructors but it paves the way for the University to go back to “normal” when the pandemic subsides. It is interesting to see that many instructors started to make adjustments in their pedagogical approach continuously to keep students motivated and spell-bound. Simple tools like online polling through Zoom or OLE is being used periodically in every lecture and tutorial. Other developments are discussed in the following sections.

5.4 Discipline-Specific Teaching and Learning Arrangements

For disciplines where other learning activities are incorporated, adaptive measures were also undertaken (Anon, 2020)²⁻⁷. In the School of Business and Administration, interactive programmes have been integrated into the curriculum for the first two years of all its full-time undergraduate programmes. These interactive programmes normally involve intensive training sessions that last for several days, and students are required to take their coursework to the stage in groups at the end of the programmes. Due to the COVID-19 pandemic, these programmes were held online via specially designed websites on the OLE (see Fig. 16).

The programmes offered by the School of Science and Technology are mostly applied and professional ones that are laboratory-based. After the virus outbreak, the School resorted to demonstrating experiments online and providing data for analysis. Later, with personal protective equipment and precautionary measures in place, students were allowed to conduct laboratory work in small classes and then small groups in regular-sized classes. The School split the opening hours of laboratories into morning and afternoon sessions, in which only one lab assistant and one student could be accommodated. Postgraduate research students therefore can take turns to use the laboratories and keep their lab work going. Fig. 17 shows students of School of Science and



All clinical practicums were halted in early 2020. Training and assessments for the final year students in the School of Nursing and Health Studies were therefore conducted in the School's simulated wards. In these wards, students were allowed to practise with highly realistic "patients", which were computerized manikins with programmes written by the School's experienced teaching staff (see Fig. 18). Practice in simulated wards can provide students with a unique experience. First, the manikins are able to simulate rare cases so that students can deal with situations they would not be likely to encounter during placements. Second, students can familiarize themselves with common but critical tasks that would have been performed by hospital staff.



Fig. 18 Final-Year Nursing Students Conducting Training in the School of Nursing and Health Studies Stimulated Ward

5.5 Examples of Innovative and Effective Teaching During the Pandemic

In a seminar series held by IROPINE in September 2020, OUHK academics and faculty in other

local and overseas institutions shared their experiences in innovative and effective teaching during the COVID-19 pandemic. Some sharing by OUHK academics on innovative teaching during the suspension of face-to-face classes are introduced below.

5.5.1 Interactive Teaching Strategies in the Virtual Classroom

A variety of strategies and tools for interactive online teaching are used to promote active learning in the virtual classroom^①. During the COVID-19 pandemic, classes were moved from the physical classroom to the virtual environment. Such a remote learning environment may endanger student engagement, and so interactive teaching strategies and tools are adopted to engage and motivate them.

At the beginning of a Zoom class, the “raise hands” function and Zoom/OLE polling are used to conduct some warm-up activities. In the mini-lectures, only key concepts are introduced. It was suggested that presentations should be confined to 10–15 minutes, with at least one interactive activity after that. The “OLE Class Activity” function (or Google Form) is utilized to boost students’ response rate to the questions posed by the teacher. In the classroom activities stage, there can be discussion-based or task-based activities. For discussion-based activities, some “breakout rooms” were created for student discussion. Students can create collaborative documents (by Google Documents) or collaborative mind maps (by Mindmeister or Minddomo) and present their ideas on Zoom. For task-based activities, Google Classroom is deployed to upload short videos by the teacher (replacing some lectures) and assignments by students. Edpuzzle was suggested as a tool to embed videos into assignments. In the recap stage, interactive activities were created by using a mind map and Kahoot. The latter tool can also be used for after-class activities, which should be for both revision and preparation of the next lesson. A YouTube channel has also been set up for students to review the key content and information, which was found to be well received.

① TANG W, 2020. Interactive teaching strategies in the virtual classroom. IROPINE Seminar Series on “Innovative and Effective Teaching during COVID–19”, Hong Kong.

5.5.2 Teaching Digital Production Courses Using Online Media

Online media were used for teaching digital production courses during the COVID-19 pandemic^①. The teaching content of these courses is mainly of an applied nature, e.g. the application of software technologies to produce digital multimedia such as animations or real-time games. Such courses were originally taught in face-to-face workshops and laboratory sessions but, due to the suspension of face-to-face classes, the teaching of these courses was switched to the online mode.

When the classes were conducted using Zoom, students put more time into studying the Zoom recorded videos (i.e., recordings of Zoom classes) and reference videos provided by the teacher. In view of the value attached by students to the videos, the teacher turned to teaching like a YouTuber in recording videos and during Zoom teaching, in an attempt to draw students' attention. When the classes were conducted face to face, the “DEDICT” (Demo, Explain, Demo, Imitate, Coach, Test) method was used, in which students were asked to imitate after demonstrations and explanation by the teacher; and the teacher would coach them and challenge them to complete a small task. However, it became difficult to have synchronous imitation and coaching in the live Zoom or video environment. The teacher therefore focused only on “DED”, with more visual communication with students. In order to force students to see the teacher, an all-in-one screencast was used for a live demonstration. Students were allowed to imitate the demo in their own time and complete a small task with a longer deadline. The teacher just waited for students' questions and gave feedback on the assignments submitted. Students were found to enjoy watching the teaching videos.

5.5.3 Teaching the Final-Year Nursing Students with Case-Based Learning

Case-Based Learning (CBL) was introduced to the final year students of the Bachelor of Nursing programmes, with the aim of bridging the gap between theoretical knowledge and practice and strengthening students' critical thinking abilities^②. CBL is a form of problem-based learning, which is a guided enquiry designed to engage students in discussion of specific scenarios

① LAI W, 2020. Teaching digital production courses using online media. IROPINE Seminar Series on “Innovative and Effective Teaching during COVID-19” . Hong Kong.

② LEE W, 2020. Teaching the final-year nursing students with case-based learning. IROPINE Seminar Series on “Innovative and Effective Teaching during COVID-19” . Hong Kong.

resembling real clinical cases.

During CBL tutorials, a case is normally presented to students for discussion in small groups. Students are encouraged to draw a mind map to put their ideas together. During the suspension of face-to-face classes, tools such as Zoom, Student Response System and Google Excel Spreadsheet were used to engage students and make the class interactive. Especially in the stage of identification of learning issues, Google Excel Spreadsheet is considered to be a useful tool as it allows students to input at the same time and so they can work collaboratively. After listing and prioritizing the learning issues, students conduct an information search. Zoom is deployed for holding sharing sessions in disseminating the information. Fellow students are encouraged to raise questions immediately and the facilitators also give immediate feedback to the students. In the final step, students are expected to be able to integrate what they have learned into the clinical practice. Students' feedback on this innovative way of learning was positive, as the online mode had not reduced the quality of teaching.

5.5.4 Application of Virtual Lab Simulations for Complementing Laboratory Teaching

Virtual lab simulations were introduced by the School of Science and Technology to complement laboratory teaching in 2019^①. Undergraduate students often encounter difficulties in laboratory sessions. It is particularly hard for them to understand the overall design and workflow of laboratory work, which may result in their making unwise or wrong decisions and becoming frustrated. In order to create a successful lab experience for students and achieve the objectives of lab-based learning and teaching, virtual lab simulations have been used to realize the experimental procedures.

Virtual lab simulations covering topics in physics, chemistry, biology, engineering and medicine were organized into course packages, and students are required to play through the simulations before attending the lab sessions. A simulation management dashboard, theoretical knowledge, simulation with a storyline, check-point questions, and student performance analytics are components of the simulations. Check-point questions and student performance analytics such as

① CHAN P L, 2020. Application of virtual lab simulations for complementing laboratory teaching. IROPINE Seminar Series on "Innovative and Effective Teaching during COVID-19". Hong Kong.

the number of attempts, student scores and flowcharts can be used to gauge student's familiarity with the experiment. During the COVID-19 pandemic, virtual lab simulations were adopted to support laboratory teaching and engage students. Students generally found that the simulations helped to enhance their confidence in doing the real lab work and maintain their interest in lab-based learning and studying in general.

6. Conclusion

Open and distance education institutions are evolving with technology development and the University has always been experimenting with the best approach to help students learn (Kwan et al., 2004) since our early days. At the same time, conventional institutions are incorporating an increasing amount of electronic or technology mediated learning into their educational delivery. The boundary between the two kinds of institutions are becoming blurred and fading (Li, 2018). Having transformed from an open learning institution to a multi-mode institution, the OUHK has been one of the pioneers in the evolution of the mode of education.

In its diverse modes of educational delivery, the OUHK is committed to quality education, and innovative pedagogy and educational technology are being used to enhance teaching and learning. With a focus on the teaching innovations in the OUHK, this article has examined a number of relevant innovative practices and explorations at the levels of the institution, academic unit, and teaching staff. In addition, it has outlined some adaptive and innovative measures in relation to teaching and learning during the COVID-19 pandemic.

As one of its core values, innovation has always been emphasized in the OUHK's policies and development strategies. Academic staff are encouraged to explore innovative pedagogical initiatives to enhance students' learning effectiveness and learning experience. Awards are presented every year to recognize staff with outstanding performance in teaching. Staff members are given support to identify innovative pedagogies and educational technology and explore their teaching with research. Efforts have been made to build an environment conducive to academic research to complement teaching and learning. The research institutes in the University are

active in developing their research capacity and providing platforms for sharing among academic staff. The IROPINE organizes regular seminars on innovative teaching to enhance the research and teaching capacity of staff members as well as annual conferences on open and innovative education for OUHK academics and other local and overseas researchers to disseminate research results and exchange ideas on innovative teaching.

Innovations have also been initiated at the academic unit level for enhancing the quality of teaching and learning. The OUHK always keeps up with technological development and takes advantage of it to improve its educational delivery. In view of the popularity of mobile devices in recent years, there have been initiatives to promote mobile learning among students. For example, the University has developed the mobile application “iBookcase” for enabling students to learn more flexibly and efficiently and some other mobile Apps for learning enhancement. Schools are also active in making use of innovative educational technology to enhance their teaching and learning. A prominent example is the School of Nursing and Health Studies, which has been keen on adopting advanced technologies in teaching and learning and is the pioneer in incorporate 3D and VR technology into nursing education in Hong Kong.

With support at the institutional and school levels, teaching staff in the OUHK are devoted to research informing teaching practice and exploring various innovative pedagogies and tools to improve teaching and learning. This article has introduced a number of studies on innovative teaching undertaken by OUHK academics, showcasing their fruitful explorations of the use of innovative teaching and learning methods and the development of technological tools for supplementing students’ formal learning. Hence, there are not only innovations in instructional design, but also innovative designs of web and mobile Apps for learning enhancement (albeit that some of them are prototypes). This article is by no means exhaustive—other relevant research and explorations are taking place, which are also keeping pace with the times and development.

Since early 2020, the COVID-19 pandemic has caused an abruptly and considerable change in the teaching and learning environment. As a prompt response to the call for social distancing, the OUHK switched all face-to-face teaching sessions to the online mode to keep student learning

going. Special arrangements were also made by Schools in accordance with the needs of different disciplines. A few examples of innovative teaching by OUHK academics during the pandemic have been provided. Student engagement and interactivity between students and teachers are the two main challenges from the switch to online teaching. Various teaching strategies and technological tools have been adopted in the examples mentioned earlier. At the time of writing, the global epidemic, especially in the United States and Europe, has become worse. These experiences may help to inform further teaching innovations in this new context of teaching and learning.

References

- Anon, 2013. Clinical simulation training centre: present and future in Chinese. OUHK Division of Nursing and Health Studies Newsletter, 2(2).
- Anon, 2015. Switch on to e-materials! OUHK courses are now fully available in electronic format. Openlink, 24(3): 13.
- Anon, 2018. Go global: OUHK students embrace cross-cultural experiences, 2018. Openlink, 27(3): 2–5.
- Anon, 2019a. Latest VR technologies introduced for teaching Nursing. Openlink, 28(1): 31.
- Anon, 2019b. Striving to nurture, transforming the future: the next five years and beyond. Openlink, 28(1): 4–5.
- Anon, 2020. Extraordinary learning in extraordinary times. Openlink, 29(2): 2–10.
- AU O T S, 2020. Mini-lectures interleaved with exercises found beneficial in online learning//WANG P L, AU O, PUNPITI P N, et al. Proceedings of the 2020 International Symposium on Educational Technology. IEEE computer society conference publishing services, 138–141.
- CHARM Y C, WISHART J, 2015. Use of mobile learning during clinical practicum in Hong Kong: Nursing students' perspective//CHURCHILL D, CHIU T K F, GU N J. Proceedings of the international mobile learning festival 2015: mobile learning, moocs and 21st century learning. Hong Kong: [s.n.]: 172–185.
- KWAN R, CHAN J, LUI A, 2004. Reaching an ITopia in distance learning—a case study. Association for the advancement of computing in education journal, 12(2): 171–187.
- KWAN R, WONG K, YU C W, et al., 2008. Building an assessment learning system on the web.

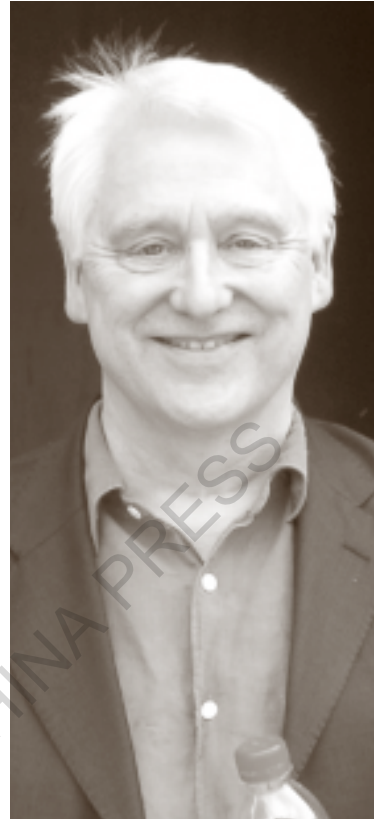
- Lecture Notes in Computer Science, 5169: 91–122.
- LAM H L Y, YAU W L S, SO L H G, et al., 2019. VR-based anatomy learning: feedback evaluation of university nursing students in Hong Kong//GiLL B K, TSANG Y K A. Technological innovation in nursing education and practice. Hong Kong: The Open University of Hong Kong: 170–180.
- LAU M H V, 2019. Develop suicide assessment skills of nursing students through a VR-based learning environment//GiLL B K, TSANG Y K A. Technological innovation in nursing education and practice. Hong Kong: The Open University of Hong Kong: 125–135.
- LEE L K, FUNG Y C, PUN Y W, 2020. Using a multiplatform chatbot as an online tutor in a university course//WANG P L, AU O, PUNPITI P N, et al. Proceedings of the 2020 international symposium on educational technology. IEEE computer society conference publishing services: 53–56.
- LEE L Y K, WONG K F, TSANG A Y K, et al., 2010. The establishment of an integrated skills training centre for undergraduate nursing education. *International nursing review*, 57: 359–364.
- LI K C, 2018. The evolution of open learning: a review of the transition from pre-e-learning to the era of e-learning. *Knowledge management & e-learning*, 10(4): 408–425.
- LI K C, LEE L Y K, WONG S L, et al., 2019. Evaluation of mobile learning for the clinical practicum in nursing education: application of the FRAME model. *Journal of computing in higher education*, 31: 290–310.
- LI K C, WONG B T M, WONG B Y Y, 2020. Enhancing teaching of an educational institution via building up its research capacity//Li K C, TSANG E Y M, WONG B T M. *Innovating education in technology-supported environments*. Singapore: Springer, 333–343.
- LUI A K F, POON M H M, NG S C, 2015. The blending of student-generated videos in an operating systems course//YUEN K S, LI K C. Proceedings of the second international conference on open and flexible education: making learning mobile and ubiquitous. Hong Kong: The Open University of Hong Kong: 244–255.
- LUI A K F, POON M H M, WONG R M H, 2018. Multitudes of problem-solving exercises and worked examples for the study of algorithms in an operating systems course//Li K C, TSANG E. Proceedings of the international conference on open and innovative education. Hong Kong: The Open University of Hong Kong: 83–94.
- NG S C, CHAN T K, CHUK M C, et al., 2019. ClassS: a mobile application for facilitating teaching and learning in a smart classroom// LI K C, TSANG E. Proceedings of the international conference

- on open and innovative education. Hong Kong: The Open University of Hong Kong: 270–286.
- The Open University of Hong Kong, 2019a. Strategic plan: striving to nurture, transforming the future, 2019–2023. [2021–01–19].http://www.ouhk.edu.hk/PAU/Strategic/OUHK_STRATEGIC%20PLAN_FINAL.pdf.
- The Open University of Hong Kong, 2019b. Striving to nurture, transforming the future. OUHK Corporate brochure. [2021–01–19]. http://www.ouhk.edu.hk/PAU/AdminPage/CorporateBrochure_ec.pdf.
- The Open University of Hong Kong, 2020a. OUHK iBookcase. [2021–01–19].http://www.ouhk.edu.hk/wcsprd/Satellite?pagename=OUHK/tcSubWeb&l=C_ETPU&lid=1385189353455.
- The Open University of Hong Kong, 2020b. Mobile learning. [2021–01–19].http://www.ouhk.edu.hk/wcsprd/Satellite?pagename=OUHK/tcAdmWeb&l=C_ETPU&lid=1385182877335&sch=ETPU.
- The Open University of Hong Kong, 2020c. Global immersion programme. [2021–01–19].http://www.ouhk.edu.hk/wcsprd/Satellite?pagename=OUHK/tcSchSing2014&c=C_BA&cid=1385191991237&sch=BA&lang=eng.
- TSO W B, 2014. Reflections on blended learning: a case study at the open university of Hong Kong// WONG D, LI K C, YUEN K S. Proceedings of the 28th annual conference of the Asian association of open education: advancing open and distance learning, research and practices. Hong Kong: The Open University of Hong Kong: 72–81.
- WANG F L, ZOU D, XIE H, 2018. Personalized word learning for ESL students via integration of implicit and explicit profiles//CHEUNG S K S, KWOK L F, KUBOTA K, et al. Proceedings of the 11th international conference on blended learning: enhancing learning success. Switzerland: Springer, 301–310.
- WONG T, TSE K W, HO Y Y, et al., 2019. SQL rookie—an SQL learning mobile application with blended learning//Proceedings of the international conference on open and flexible education Hong Kong: The Open University of Hong Kong: 49–69.
- WONG W Y T, TSE K W, KWAN T H, et al., 2020. A mobile app for learning Java through games//TSANG E, LI K C, WANG P. Proceedings of the international conference on open and innovative education. Hong Kong: The Open University of Hong Kong: 91–105.
- YAU W L S, SO L H G, LAM H L Y, et al., 2019. Technological enhancement for teaching anatomy

and physiology in nursing education//GILL B K, TSANGY K A. Technological innovation in nursing education and practice. Hong Kong: The Open University of Hong Kong: 136–142.

YUEN K S, TSANG E Y M, CHEUNG B P P, 2014. Developing mobile learning modules for the enhancement of language proficiency//YUEN K S, LI K C. Proceedings of the inaugural international conference on open and flexible education: making learning open and flexible: emerging modes and approaches. Hong Kong: The Open University of Hong Kong: 389–407.

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS



Alan Tait

...the great innovation at the heart of the Open University UK lay in its new configuration, its assemblage if you like, of a range of existing innovations but put together for the first time in a new way.

Alan Tait is Emeritus Professor of Distance Education and Development and former Pro-Vice-Chancellor at the Open University UK, and Fellow at the Centre for Distance Education, University of London. He was Editor of the *European Journal of Open, Distance and E-Learning* (EURODL) from 2005 to 2013, was Editor from 1989 to 1998 of the journal *Open Learning*, was President of the *European Distance and E-Learning Network* (EDEN) from 2007 to 2010, and Co-Director of the *Cambridge International Conference on Open and Distance Learning* from 1988 to 2013. In 2012 Alan was awarded an Honorary Doctorate by Moscow State University for Economics, Statistics and Informatics, appointed Visiting Senior Online Consultant at the Open University of China in 2013 and received the degree of Doctor of Letters from the State University of New York's Empire State College in 2021. Alan is founding Emeritus Editor of the *Journal of Learning for Development*, produced by the Commonwealth of Learning; Visiting Professor, Amity University, India from 2018 to 2019; Distinguished Visiting Professor of Open University of Hong Kong from 2015 to 2018; Visiting Professor at Aalborg University, Denmark from 2012 to 2016; senior member of St Edmunds College, University of Cambridge, and transformation advisor for the Commonwealth of Learning at Botswana Open University 2011–2016. Alan was Special Advisor to the International Council for Open and Distance Education (ICDE) from 2018 to 2019. He is Chair of Trustees at Mind for Cambridgeshire, Peterborough and South Lincolnshire.



The Open University UK
<https://www.open.ac.uk/>

The Open University of the United Kingdom: Looking Back, Looking Forwards

Alan Tait, former Pro-Vice-Chancellor, the Open University UK

1. Introduction

The Open University of the United Kingdom (i.e. the Open University UK), founded in 1969 as the first university bearing this name, can be called the mother of all open universities, with now more than 100 independent open universities around the world. To be sure they do not all follow the same organisational structure, although many do. But the core institutional model of large scale distance and online teaching with unusually flexible and open entry requirements and systems of student support, to allow a wider than usual range of students to participate, is a common feature. This chapter will:

- set out the major institutional influences on the establishment of the world's first open university;
- examine in more depth its defining features, and in particular the practice of innovation at its conceptual core;
- analyse the contested discourses of quality that define its perceived and actual reputation;
- discuss the impact of the digital revolution on its functions and organisational size and shape;
- examine the continuing areas of innovation that currently define it.

I hope this chapter will provide a definitive account of the Open University UK, at least in the sense that it will propose the terms of discussion for one of the 20th century's most important educational innovations, but understanding at the same time that this account must be provisional in the sense that it will ask questions about the institutional model of the open university more widely for the future.

2. Foundation

There are a number of historical developments that help set out the context for the establishment of the Open University UK. The first is that in 1960 the continuation rate from school to university in the UK lay at approximately 5% only, ending that decade doubling to some 10% following major expansion with around 23 new universities during that decade (Robertson, 2010). Almost all the places in the newly expanded higher education sector were, however, taken up by school leavers, with the adult part-time learner served almost entirely in evening classes by Birkbeck College in London, and the University of London itself with external degrees freely available more widely throughout the UK and indeed the world. Higher education was an opportunity for the elite, dominated by children from middle class families, and more by men than women. Both the historical backlog and the continuing injustice in life opportunity constrained by social class and gender provided one stream in the Labour Party Prime Minister Harold Wilson's first proposal in 1963 that an additional new university but of a new kind should be established to address such inequities. The second stream of the Prime Minister's concern was that the possibilities of broadcasting have not been optimally deployed for formal educational purposes, and he thus placed the use of technology for education at the heart of what was to become the Open University institutional model, which he named "The University of the Air" (Perry, 1976)⁸. Alongside the commitments to social justice and educational technology was the recognition that the UK needed greater numbers of technologists and scientists in order to provide the skills and knowledge basis for a modernising economy (Weinstein, 2015)⁸. Wilson entrusted the still embryonic idea to his Minister for the Arts Jenny Lee, who was widely given the credit for making a reality of it, and in doing so adapting the original vision in some very important ways.

Jenny Lee worked with the Open University Planning Committee which examined the available range of options on a global basis which might provide concrete help in inventing the organisational form for a radically new university. The most important of these included the examples of part-time higher education in the Soviet Union, with Wilson particularly impressed by the number of engineers educated in part-time lifelong learning modes supported by correspondence study; the models of tutorial and weekend schools pioneered by the tutorial

colleges that had come into existence to support the external degree programmes of the University of London; and a range of approaches to student support found in summer schools organised for part-time and correspondence students by Australian universities and at the University of South Africa. None of these provided a blueprint, but all contributed elements of innovation that made up the new whole created by the Planning Committee and the new Vice-Chancellor and his senior team. We can perhaps say that the great innovation at the heart of the Open University UK lay in its new configuration, its assemblage if you like, of a range of existing innovations but put together for the first time in a new way (Tait, 2020).

Weinstein in his history of the Open University UK took up Christenson's notion of disruptive innovation only to reject it somewhat dismissively (Weinstein, 2015)¹⁷⁻¹⁹. However, a number of key characteristics of how universities were understood to function, and for whom, were disrupted, not to say upended by the Open University UK. They have had an impact world-wide. The first of these is that the Open University UK, as the latest of the 1960's new universities designed to move the UK from an elite to a mass higher education system, decided to have no entry qualifications for undergraduate admissions. This at a stroke changed something hitherto fundamental to the functioning and character of higher education, that the university chose its students, as happened through competitive entry and selective interview at all other universities. However, at the Open University UK the students chose the university. There were for the first 20 years or more applications to the Open University than there were places, as there were for the more selective universities, but the Open University used a first come first served queuing system to manage its admissions, not selection. While this has not been widely copied in open universities around the world, who usually, but not always, ask for High School Leaving Certificate, the Open University UK has stuck to this fundamental reversal of the power relationship between student and institution for more than 50 years. The number of students in the first year of undergraduate study has had a consistent division between approximately one third each of those with more than the minimum grades for university admission, those with the minimum, and those with less than the minimum who would normally not be able to apply for university entry.

This radical approach to student admission has changed the understanding of who could go to university, from the stereotypical but not misleading picture of 18 or 19 year old middle class

young person, more often a boy than a girl, to a university of adults in all sorts of occupations, and from the beginning with a larger proportion of women to men than in the rest of the university sector, increasing to more or less equal proportions. The predominant characteristics of the Open University student was not of someone who had had no post-school education, but of someone who had had some but wanted more. There were therefore large cohorts of non-graduate school teachers, engineers in technician roles, IT workers in the then embryonic telecommunications and computing industries, and later managers and would-be managers, nurses and allied health workers, legal workers, laboratory workers, and so on. The picture is one of individuals already in a process of social mobility not so much those for whom this was the first step (McKenzie et al., 1976). However, we should not overlook the large numbers of women home workers, for whom the Open University provided a route for study flexible enough to accommodate the demands of parenting and home management, and the small but until the recent period important number of people who had retired and were studying more or less exclusively for reasons of personal fulfilment rather than vocational advancement, career change or professional development. Finally, there were a number of student audiences who had never been served adequately. First and foremost were students with disability, and to this day the Open University UK supports more students with disability than all the other universities in the UK put together, and can fairly be said to have pioneered the recognition that students with a range of functional disabilities could and should be supported to study. Other smaller groups have had their study facilitated by the flexible and student centred nature of Open University operations and systems, including students in prison and in the military.

The foundation of the Open University as laid out here was driven by educational and social mission, and while this at a time before mission and vision were formally constructed as essential for all organisations, the sense of mission was strongly influential on the motivation of staff for joining and working at the Open University. This is now reflected in open universities all around the world, and while it may be difficult to find programmes of work to bear out the viability of delivering on all aspects of an open university's mission, a bold and innovative educational mission is core to the identity of the majority of open universities (Tait, 2008).

3. Educational Technology

The second dimension of disruption that the Open University UK brought was in its deployment of a range of technologies, assembled as noted above in new ways. Prime Minister Harold Wilson's vision of the use of TV and radio was brought forward, though not as the primary means of teaching as he envisioned in his so-called "University of the Air", but as supplementary enrichment in what was created as a multi-media teaching system. TV and radio had hitherto been seen primarily as media enjoyed at leisure, albeit including informal education as well as entertainment and news and current affairs. Produced in a core partnership with the BBC, those sceptical of the very concept of change from conventional approaches to teaching were able to refer sarcastically to the use of TV and radio as inappropriate for a university with any claim to seriousness. The ways in which BBC producers worked as partners with Open University academics moved swiftly away from televised lectures—this more than 50 years ago—to using TV to provide visual explanations more effectively than text, such as three dimensional graphics for Mathematics, as well as enormously enriching site visits for subjects such as geology or art history. The broadcasts, which were available to the public at large not only Open University students acted as a compelling shop window for those with an informal interest in learning, not only for students gaining credit towards a qualification.

Other major innovations on the academic front lay in the development of methods for creating texts for active learning that initiated an internal conversation for the individual learner in his or her home, and were not in any sense old-fashioned text books. In the light of the open entry admission policy, the Open University took very seriously the range of academic backgrounds especially in the first or so-called Foundation Year, when the student was supported in study skills, and supported in his or her progress by an active tutor with a maximum of some 25 students per tutorial group. The development of the tutor role was not in itself an Open University innovation, but to make it central to the student academic and individual life on such a scale was an innovation, as well as the support and quality assurance systems that will be examined below. Of importance also was the development of so called Home Experiment Kits, sets of equipment delivered to the student's home that allowed the student to conduct scientific and technological

experiments, and learn the discipline of recording results.

There were other dimensions to the deployment of technology in ways that were truly innovative. Of note was a print operation for teaching units, a delivery system for teaching materials to student's home, and an examination system for many thousands of students. Of particular complexity was the management of student assignments which moved in a circle by mail from student to tutor, tutor to university, and from university back to student, with a sample inspected for grading consistency and quality of teaching feedback, a very substantial logistical operation, with more than a million assignments per year. These operations were all framed within systems with targets of time and accuracy, collected user feedback, and produced data that was analysed for quality assurance purposes. This was the modern context out of which Peters created his theory of the industrialised nature of distance education as opposed to the craft systems that remained dominant in campus-based teaching (Peters, 1994). Of course since the advent of the digital revolution many of these systems have moved from analogue to digital technologies, and have demanded the use of Moodle, proprietary and home developed software, and large cadres of IT staff in support. It should also be understood that over and above the invention of discrete elements of educational policy and practice their assemblage into a whole, which can be termed "educational logistics", which perhaps represents overall the most significant element of innovation for the Open University UK, and for open universities around the world.

It is worth saying at this point that professionals who were not academic staff but in academic and operational management made up, and indeed today make up a majority of the professional level staff, due to the complexity of the industrialised nature of a university that grew at its largest in the years 2000–2010 to 250,000 students. While this is dwarfed by the scale of the Open University of China and the Indira Gandhi National Open University of India, which work in millions, it nonetheless represents a mega-university in Daniel's definition (Daniel, 1998).

4. Courses and Curriculum

There are a number of aspects of Open University innovation in the field of curriculum and

programmes of study which have not recently received attention in the same way as have the innovative features of student admissions and audience, and educational technology.

The Open University UK has attempted to make its study systems genuinely student centred, that is to say in recognition of the wide range of educational backgrounds and life contexts, in particular with undergraduate students, it seeks at all times pro-actively to reach out to help students succeed. The initial and very influential model of a multi-disciplinary Foundation Year was pioneered in the UK by the Open University, providing a broad and multi-disciplinary introduction to the Humanities, the Social Sciences, Mathematics, Science and Technology, broadly speaking the early faculty structure, later complemented by Educational Studies, Health and Social Welfare, Business Studies and Law. The undergraduate degree structure was for the first 20 or so restricted to BA only, whatever the subject areas, as was the case in the ancient universities of Oxford and Cambridge. However, pressure from students led to differentiating between BA and BS before again primarily as a result of student pressure so-called Named Degrees were introduced in order, so students argued, to have more market currency. The multi-disciplinary focus of innovation was taken further in topic or concept based courses such as “Risk” and “Enquiry”, which drew on so wide a range of disciplinary approaches that they were called “University” courses rather than having a faculty specific base. However, it would be true to say that the 1990’s saw the taming of curriculum innovation as the market for higher education in England in particular led the University and its student body to want its qualifications to be much more conventional than the original academic innovators envisaged. As the age of students has come down, more programmes of study have focused on occupational and professional education, with learning outcomes directed towards employer recognition.

Most importantly, the Open University UK pioneered the use of modular structures for its degrees, allowing students to construct credit accumulation pathways flexibly from whatever subject area they wanted as well as within more defined subject specific groupings. This also permitted breaks in study without the threat that credit would be lost, in recognition of the challenges of working and family life that adult students manage. Finally and radically for its time, the Open University permitted the count of credit from other institutions to be counted for an Open University qualification, again recognising that what counted towards a qualification was what a student

could demonstrate she/he had learned, not necessarily what the Open University alone had taught them. While the Open University is no longer alone in doing this, it is still by no means universal in UK higher education.

A further area of innovation much discussed in the early period was the concept of the course team that is a collective of academic and other professionals who together put together modules, through discussion, sometimes very lively, of curriculum content and pedagogy. This was an innovation in the sense that it removed the privacy of individual teaching which was the dominant model of lectures and seminars in universities, a one man or one woman responsibility that was not open to wider institutional transparency, and has subsequently widely influenced learning and teaching in higher education. It was argued that this enormous collective and indeed costly commitment to the production of courses and modules led to the widely agreed high quality of learning materials, widely agreed that is in much of the higher education sector where they found their way formally or often informally as support to teaching in other universities.

5. Student Support

A significant marker of difference with preceding correspondence teaching schools lay in the Open University's early and continuing commitment to substantial and individualised student support. The core idea was that in a mass university the student should still feel that she or he was known, supported and valued as an individual learner.

Core to this is the role of the tutor, a part-time staff member often teaching in another university or an academically qualified person with part time or home management responsibilities who wanted to work in this way. The tutor had a group of no more than 25 students, and had the responsibility for grading the continuous assessment which provided more or less half of overall assessment when combined with an examination or end of model project. The tutor role contained a number of then innovative features, not least the focus in correspondence teaching on developmental feedback, not just grading. In fact, the developmental feedback on a student's assignment was core to the teaching as a whole. Further the tutor role was constructed to be pro-active in reaching

out to each student, not only to support those in difficulty but to support the good student to become excellent. Thus while the tutor was a part-time and in formal terms a marginal member of staff, their role in student-facing activity was central, and represented to a significant extent what the Open University experience was to the student. Considerable effort was invested in professional development for tutors, and for the first 30 years included those with a defined counselling responsibility, in effect student advisors. A team of advisors and guidance workers also supported students, especially in the period before study, in recognition of the wide range educational backgrounds that were being admitted to university study. Both tutors and advisors in the first 30 years of the University's life were supported in some 12 or 13 Regional Centres, or National Centres in the case of Northern Ireland, Scotland and Wales, with tutors offering face-to-face tutorials across some 260 study centres in the UK. In this period before the advent of digital technology, the only way it was understood one could be near students was to have an infrastructure that diminished geographical distance, as well of course as telephone contact. All this was to change from 1995 or so onwards as the digital revolution set challenges for the analogue solutions that the Open University had created, and place as a core organising principle for student support began to give way to the new desirables of immediacy and national level expertise which online solutions began, with greater and lesser success, to offer. In other words, advice and support to students began to be provided more through online tutorials, email and Call Centres for telephone support, adopting approaches developed in commercial online customer practice (Tait, 2014). The majority of Regional Centres in England were abolished. The new practices of Learning Analytics were pioneered in the Open University UK building with digital solutions out of the many years of practice in intervening actively to support student progress, and using survey data to feedback to course teams for purposes of quality enhancement. This was a difficult revolution for the Open University, as for many open universities around the world, with the affordances of digital technologies gradually, perhaps too slowly, revealing themselves, and much difficulty in taking some students and some staff on the journey that the digital revolution demanded. There was a lengthy period when the costs of hardware and download as well as competence in digital skills were shared only with part of the student body, and the University had to offer twin tracks of analogue and digital services, with concomitant complexity and additional cost. This finally moved into a more established universal digital platform for all Open University students and staff, including tutors, in the period 2005–2010 (Tait, 2014). While face-to-face

tutorials continued up to the COVID-19 crisis in 2020 to be available for many though not all courses, as always on an optional not compulsory basis, they make up today less and less of the blended mix of the student support offer as a whole. The COVID-19 pandemic, which we are still living through at the time of writing, will surely accelerate that move for the open university, as it has done so dramatically for campus-based universities around the world.

6. Quality

It is important to discuss the notion of quality and quality assurance in any account of innovation in the Open University UK, not least as it was the first Open University and thus pioneered this complex area. The area was complex because we have to distinguish between perceived quality, as well as actual quality, and this latter in itself is complex because we have to unpack what the legitimate and most important measurements of quality are.

The issue of perceived quality relates to what our societies in all their variety, but especially the media and its influence on popular opinion, say about an open university, and this is open to much subjective misunderstanding as well as fair and responsible critique. If in the UK, and I suggest in many countries, there is discussion about “the best universities”, it will in everyday conversation refer as a matter of course to the highly selective, research focused and older universities in the country. However, while these universities do without doubt represent excellence in their own terms, for example having the school leavers with the highest school leaving qualifications and the most impressive research outcomes from their academics, any account of “the best universities” should also include those who face the most demanding challenges in terms of teaching and student support for a much wider range of student educational backgrounds. Thus while the reputation of quality in higher education is often based on very conventional assumptions, an open university has to fight for its place in a contested discourse about what quality is. This is not to dismiss the discourse of the excellence of the elite universities, but to insist on a place in the discussion of excellence for those universities, and an open university is preeminent in this category, who seek to undertake a much more ambitious task in building a mass higher education system with a wide variety of students. Thus part of the task in the quality arena for

an open university is one of advocacy for this wider and more nuanced understanding of what quality is.

For the Open University UK quality has been built on innovation in the twin pillars of audience and broadly defined, educational technology. Thus when an open university announces, for example through its mission statement, that it proposed to offer educational opportunity to those communities significantly historically excluded from higher education, it is reasonable to set targets for audience segment and to monitor the extent to which this has been achieved. During the 1980's and 1990's many of the new universities became heavily invested in the so-called "Access" and "Widening Participation" movements, that is to say making significant outreach efforts to recruit from under-represented communities. This was often achieved with very local programmes of pre higher education study which substituted for conventional high school leaving examinations. This has even recently percolated through to one of the best known elite universities, namely the University of Cambridge, which from 2021 on will offer 50 "Foundation Year" places free of charge to members of under-represented communities (University of Cambridge, 2021). It is a legitimate question to ask whether the Open University's principle of openness alone is now the optimum approach, rather than the more embedded recruitment and support strategies in local schools of many of the new universities, or even older more privileged universities.

Core to discussion of quality in the Open University UK, as for all open universities, is the issue of student completion, progression and drop-out. We have to avoid facile comparison of student success with highly selective universities as against those like open universities which deliberately take risk in admitting non-standard students to higher education. The Open University UK with an admission policy of having no entry qualifications has had for more than 50 years something like 50% success rate in the first year of undergraduate study. While the institution should always seek to improve, and it is fair to say it does, the success rates for highly selective universities recruiting full time-students amongst high school leavers are always going to be much higher than part-time adult learners managing work and family, and having for the most part less privileged social and educational backgrounds.

Quality assurance in higher education in the UK as a field of practice it can legitimately be said was substantially invented by the Open University UK. This included the collective efforts of course teams where teaching texts were critiqued by course team members, most innovatively on an egalitarian basis irrespective of academic rank, in order to build quality, to the examination of teaching comments by tutors in order to support their best efforts in helping students to learn and develop. Operational targets for delivery of courses, and for timely delivery of assignments back to students etc. were set and monitored on an industrial basis, and on principles that would later be understood as making the base for logistics. Student feedback for each module was collected on every presentation and course teams asked to adjust as appropriate in accordance with student opinion, thus moving quality assurance to the further stage of quality enhancement. While quality assurance is now universal in higher education, and not just as an internal process but also with the government directed external quality assurance processes, the setting of university mission, targets and monitoring of operational achievements in higher education in the UK were pioneered by the Open University, and are core to its innovative character.

7. The Digital Revolution

The digital revolution of the last 30 years or so has set substantial challenges to the Open University, as indeed to many universities. For some staff the foundational assemblage of technologies made up the defining character of the university, and to move away from them was to betray the vision of access and inclusion that were seen as central to the Open University's character. There were some embarrassing examples of slowness to adapt, as when students complained that audio-cassettes were being sent out with audio material after audio-cassette machines were no longer available to buy. Most important, however, was managing the pace of change, as students and staff became increasingly open to digital basics, such as having an email address and using the web for daily business. When could the Open University say the tipping point came, and when if digital innovation was not adopted the interests of a minority were holding up the interests of the majority?

Today the Open University makes it essential for all students to use the web, makes it compulsory

for assignments to be written or produced on a computer and uploaded to the tutor and the university online, and offers tuition online as well as in some cases maintaining some face-to-face tutorial meetings. Course materials are all on line, but a number of courses continue to send them out in print also. Many modules have moved away from end of course examinations over the last 20 years, as continuous assessment supported by the tutor role provided a robust and reliable judgement of individual student performance as well as support to learning. Where end of course assessment was still wanted projects in many cases have taken the place of examinations. So in 2020, the year of the COVID pandemic, the Open University UK was not seriously challenged as were many campus and distance universities by the inability to hold classic end of course examinations in an examination hall. TV and audio have been removed from the partnership with the BBC, and produced for and embedded in web delivery for the module rather than publicly broadcast. The Open University UK graduate can claim justifiably that she or he has sophisticated digital learning skills, both individually and on a networked basis with peers and tutors, all valuable for career development or career change.

8. Looking to the Future

I have made this analysis of the Open University UK with the concept of innovation at its institutional core, and have argued elsewhere that in order to maintain its place in an ecosystem of higher education that is itself always in a process of change, innovation for an open university needs to be maintained and not abandoned (Tait, 2018). The question should be considered then as to how innovation in the Open University UK is to be maintained today.

The principle drivers of and constraints on change would include firstly government policy for fees and funding in England in particular, as the country in the UK with 85% of the total UK population. The Open University UK saw its student fees tripled by order of the government in 2011, and the next 6 years saw it lose some 40% of its student population, as adults were not able or not prepared to pay the new higher fees. That has over the last 3 years begun to reverse as the new high fees and student loan culture has become more acceptable for adult students. At the same time the student profile has changed with the age of students becoming lower, and the near

total disappearance of students over the age of 60. While the Open University UK has always set its fees as low as it can in order to support access and inclusion, it is powerless to reverse the marketisation of higher education imposed most severely in England by the UK government, and its negative impact on lifelong learning for all.

Secondly, the new landscapes for technology supported practice in education contexts still present many opportunities, and it is here that innovation may identify new audiences, and that the Open University UK may find the best opportunities to lead higher education.

The most exciting range of possibilities comes with the open education resources movement and the combination of the near total penetration of the UK population by the Internet. The landscape of informal digital learning is based on the very widespread social practice of regular Internet use for day to day purposes, with some 95% of the population having accessed it in the last 3 months^①. While access continues to be an issue which the COVID-19 pandemic has thrown into sharp relief for children in poorer families and less advantaged areas, the extraordinary phenomenon of OER's over the last 10 years or more have seen informal learning opportunities fuse with the advent of portable devices such as smart phones and tablet computers, with broadband available in many public spaces and travel hubs as well as at home.

The Open University UK has been at the heart of this nexus of innovation from the start, with the creation of Open Learn, an OER (Open Educational Resource) site freely open to all, with decommissioned courses and a proportion of all current courses, which has been visited by many millions of informal learners. The creation of the Open Learn site has been complemented at the same time by the leading role taken by the Open University UK in the MOOC movement, not only creating its own MOOCs but even more significantly building a MOOC platform, FutureLearn, which is used by many of the top universities in the English-speaking world as the platform for their MOOCs. FutureLearn has invented a number of sector-leading characteristics in the MOOC field, such as being designed from the start for mobile devices, and using a multi-media pedagogy that supports student engagement and interaction. The Open University UK continues to innovate

① Baker C, Hutton G, Christie L and Wright S (2020) COVID-19 and the Digital Divide, accessed 30 January 2021.

in finding sustainable financial solutions, in particular for FutureLearn and MOOCs, with a range of income-generating opportunities, including end of course certificates, aiming to invent new and appropriate micro-credentials that will support adults in their personal and employment related development.

The practice of informal digital learning creating new audiences with innovations in qualifications structures that provide more flexibility in recognising learning than lengthy Bachelors and Masters Degrees is surely the nexus where the Open University UK will press forward and maintain its trajectory as a university with innovation at its core. This will be combine with the as yet unknown outcomes of the COVID-19 pandemic which has accelerated the social practice of online learning for many new audiences, from school through to college and university, thus making the Open University more mainstream for all for the future.

References

- DANIEL J S, 1998. Mega-universities and knowledge media: technology strategies for higher education. London: Kogan Page.
- MCKENZIE N, CALDER J, SWIFT B, 1976. A degree of difference, a study of the first years' intake of students to the open university of the united kingdom. UK: Society for Research into Higher Education.
- PETERS O, 1994. Distance education: the industrialization of teaching and learning. Routledge studies in distance education.
- PERRY W, 1976. Open university, a personal account by the first vice-chancellor. Milton Keynes: The Open University Press: 8.
- ROBERTSON S, 2010. Globalising UK higher education. Globalisation societies and education, 6.
- TAIT A, 2008. What are open universities for?. Open Learning, 5: 88–93.
- TAIT A, 2014. From place to virtual space: reconfiguring student support for distance and e-learning in the digital age. Open Praxis, 6(1): 5–16.
- TAIT A, 2018. Open universities: the next phase. Asian association of open universities journal, 13(1): 13–23.
- TAIT A, 2020. The digital revolution and distance and online learning: some personal observations//

PAULSEN M F. In my online educational world, 1980–2020. [2021–01–28]. <https://www.noaa.no/my-online-education-world/>.

University of Cambridge, 2021. Cambridge foundation year offers new route to undergraduate study for educationally and socially disadvantaged students. [2021–01–28]. <https://www.cam.ac.uk/news/cambridge-foundation-year-offers-new-route-to-undergraduate-study-for-educationally-and-socially>.

WEINSTEIN D, 2015. The open university, a history. Manchester: Manchester University Press:8, 17–19.

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS



Dr. Neil Fassina

Adding complexity to the role of higher education is that the digital revolution is also eroding many of the core traditions of the industry—forcing it to reconsider how it best creates opportunity for society.

Dr. Neil Fassina has served as the President of Athabasca University since 2016, where he is responsible for the strategic, academic, and operational leadership of the University. From 2013 to 2016, he worked as Provost and Vice-President Academic at the Northern Alberta Institute of Technology. He is currently Chair of the Executive Committee of the International Council of Open and Distance Education. Dr. Fassina received his PhD. in Organizational Behavior and Human Resource Management at the University of Toronto in 2005. His research interests include negotiations, applied decision-making, social exchange relationships and talent management.



Athabasca University
<https://www.athabascau.ca/>

Bridging Social, Cultural, and Economic Divides: A Vision for the Future of Education

Neil Fassina PhD, CPHR ICD, D, President, Athabasca University, Canada

Abstract

We are facing a difficult time in society. Divisive and fear-based rhetoric fueled by populist and ideological viewpoints dominate numerous media, geopolitical relations, and community discussions. Anonymity has enabled criticism and conjecture to displace constructive debate, the seeking of truth, the dissemination of knowledge, and societal conciliation. Underpinning and fueled by this divisiveness is a growing social, economic, and cultural divide between individuals and communities on a global scale. Recognizing the power of knowledge to combat partiality, societies are looking to higher education to slow and, ideally, reverse these growing divides.

Interestingly, the same liberation of information and the accelerating digital revolution that enabled divisive rhetoric to spread is forcing institutions of higher learning to question many of their traditional and measured foundations. Contemporary learners are expecting a seamless connection between the digital and built environment, formal and informal learning, wrap-around supports, and the opportunity to contribute to knowledge. A widening gap between knowledge creation and mobilized innovations has placed numerous societies at risk of reduced productivity, economic strength, and social entrepreneurialism. The need for social change and the steady erosion of competitive advantage has forced institutions to seek out new and globally relevant approaches to learning, research, and innovation to remain reputable in the eyes of their stakeholders.

This paper explores how seeking to create universal equal access to learning may stimulate societal change while simultaneously enabling institutions to model the next generation of higher education. Particular attention will be given to issues of scalability, sustainability, and affordability in describing potential learner- and community-centric alternatives that enable individuals to create and curate knowledge so that they may improve the social, economic, cultural, and environmental quality of life in their communities.

1. Introduction

We are facing a difficult time in society. Divisive and fear-based rhetoric fueled by populist and ideological politics dominates numerous forms of media, geopolitical relations, and community discussions. Individuals are finding it easier to tear down and criticize—often anonymously—than to constructively debate, seek and speak truth, create knowledge in place of conjecture, and move toward conciliation. This newfound anonymity is enabled by a digital revolution that disrupts industries and communities, seemingly without regard for traditions. Communities around the globe continue to face rising tensions related to systemic barriers to equity, diversity, and inclusion grounded in both visible and unseen diversities. Adding complexity, individuals and communities continue to grapple with a global health crisis that appears to be splitting societal perspectives even further. The cumulative result is social, economic, and cultural divides between individuals and communities.

At more than one point in history, society has called upon higher education to actively contribute to the slowing (and reversal) of these divides among and between individuals and communities (e.g., Marginson, 2016; Shimeles, 2016). With global connectivity and storage capacity, information is quickly becoming democratized—albeit not equally or equitably. Information on its own, however, will not bridge the gap. Information, when respected and combined effectively, becomes invaluable as it forms the basis of knowledge. With knowledge comes the potential for

personal agency for change, progress, resiliency, and equality.

Creating knowledge through education amid the digital revolution faces unique challenges because of the exponential speed at which information is created, adapted, combined, shared, and accessed. As the speed of information increases, a world in which knowledge and innovation are inequitably distributed is one in which the divides among and between individuals, communities, and nations will amplify to a point where they become unbridgeable.

Adding complexity to the role of higher education is that the digital revolution is also eroding many of the core traditions of the industry—forcing it to reconsider how it best creates opportunity for society. For example, the tradition of creating and curating knowledge through research, teaching, and awarding of credentials has changed through the commoditization of information, the ease of access, and personalized search algorithms (e.g., Google, 2019). Individuals can now self-initiate and self-curate their own learning outcomes and journey rather than relying on higher education for that purpose. Similarly, the nature of information creation has changed as learners expect to be active contributors to information and knowledge thereby democratizing the research tradition of higher education. Finally, even the role of credentials is under threat as organizations are lessening their focus on specific credentials, or the need for a credential at all, as a requirement for employment (Counter, 2018; Connley, 2018). In the place of formal higher education credentials, employers are turning to generic learning or micro-learning experiences as conditions of employment (Harvey, 2018; Lewington, 2019).

As one of the longest-standing social constructs (Encyclopedia Britannica, 2019), higher education has historically been measured, risk-averse, and sensitive to avoid fleeting trends. When framed within the digital revolution, this traditional approach has, at times, left higher education lagging societies' needs rather than leading them—a position that is in direct opposition to the societal expectations of today. One may argue that a “wait-and-see” approach by higher education may result in the sector becoming increasingly challenged to “catch up” let alone lead.

This is not to suggest that higher education cannot adapt—quite the opposite. One reason that higher education is among the longest-standing social structures is that it has always been able

to adapt to meet the needs of society. Over time, institutions moved from religious to state- or government-supported. They have moved from student-run to faculty-led, and most recently to social enterprises managed by an administration (Frijhoff, 1996; Scott, 2006). Institutions moved from a focus on the divine through to a humanist lens focused on the person (Ruegg, 1992) and more recently to vocational skills focus. Generations of resiliency in higher education are demonstrated through the many traditions in higher-education. Unlike prior revolutions, however, the speed to change in the digital revolution is not measured in centuries, decades, or even years—it is measured in weeks and months. To respond, higher education needs to adapt at the same speed. This speed, however, is often in direct conflict with the traditional economic and business models of modern higher education institutions. To continue building resiliency into the future and continue to collect and protect traditions, higher education needs to think untraditionally.

2. Universal Equal Access—Being Truly Learner-Focused

Let us start with the premise that every human is capable of learning at some level. This is echoed in the UN's Envision 2030 Goal #4 that seeks to create equal and affordable access to quality education throughout life (United Nations, 2018). Specific to higher education, this UN sustainability goal states that every person should have equal and affordable access to quality technical, vocational, and tertiary education, including university^①. One may suppose that this goal rests upon research that highlights the positive impact that education has on reducing inequality^②, increasing economic opportunities (Blanden et al., 2004), and strengthening labour productivity and growth (Sabot et al., 2016).

Despite a global recognition of the importance of higher education for everyone, most modern institutions discriminate between individuals and “select” who should be given the opportunity to

① United Nations, 2018. The Sustainable Development Goals Report 2018.

② TOH K W, 1984. Education as a vehicle for reducing economic inequality//ALI S H. Ethnicity, Class and Development malaysia: persatuan sains sosial Malaysia.

learn. These criteria are often put in place to increase the probability that the learner will complete the credential for which they have applied (e.g., Jerant et al., 2019; Schauner et al., 2013). The risk to society, however, is not inherently based on “selecting” learners who have the readiness, ability, and capacity to learn. Rather it is in the criteria by which higher education institutions discriminate among potential learners. Well-meaning, yet arguably misplaced proxies for a learners’ readiness, ability, and capacity to learn abound: merit (often based on the “successful” completion of secondary school or an admission test), location of residency, financial ability, or demographic characteristics such as gender, age, ethnicity, religion, and culture.

The unintended consequence of using these proxies is that they create systemic barriers between individuals and knowledge unrelated to readiness, ability, and capacity, thereby reinforcing the very lines of inequality within communities and society that education is being asked to reduce. In holding on to these artifacts, the social and cultural divide is amplified by higher education institutions through their selection processes. To be truly learner-centric, higher education cannot intentionally or unintentionally prevent individuals and communities from reaching their highest potential through knowledge. This is the principle of universal equal access—the principle that all individuals who have the readiness, ability, and capacity to learn should be given equal opportunity to do so.

3. Dismantling the Access, Quality, and Affordability Quagmire

A primary argument put forward by higher education providers for having competitive entry or first-past-the-post entry requirements is that access must be balanced against affordability and quality, thereby leaving universal equal access unattainable. This argument is often rooted in the “iron triangle”. The premise of the triangle is that access, quality, and affordability must be traded off such that only two of three can be accomplished. For example, all else being equal, to create universal equal access, one must either decrease affordability or decrease quality. One may argue, however, that the iron nature of the triangle is built on our own assumptions and traditional models of higher education. To dismantle the triangle, we need to first look through the changing

nature of quality and affordability.

3.1 Quality

For illustration purposes, quality will be discussed as a product of the “what, where, when, why, and how” people learn.

What do people learn? Looking back over the history of modern higher education, one can see the emergence of a humanist perspective stemming from one of a focus on divinity during the 15th through 17th centuries. While professional environments emerged at the same time (e.g., medicine), the humanist perspective dominated and later developed into the modern study of the humanities. The 19th century became more focused on the natural sciences (Levi, 1942). During the same time, vocational skills (e.g., masonry) tended to be developed through both formal (e.g., mason’s guild) or informal (e.g., medicine) apprenticeship systems.

As time progressed through the 20th century, society witnessed a dramatic shift in the “gold standard” of what people needed to learn. “Learning to know” (Nan-Zhao, 2005) shifted toward “learning to do”. Set against the backdrop of the industrial revolution, vocational skills emerged as a gold standard in higher education. The creation of discipline-specific faculties and degree offerings (e.g., engineering, law, business) and the emergence of polytechnic institutions focused on technical apprenticeships (e.g., welding, electrical, construction, etc.) emerged. Oddly, this gold standard set in motion a reverse pendulum for the humanities in needing to rationalize their place in the learning environment (Levi, 1983).

The digital revolution has forced us to rethink the gold standard of learning, yet again. To begin, technology is innovating so quickly that technical skills are often obsolete before the student has completed a program (Kasriel, 2017). Concomitantly, the increased complexity of social, economic, and environmental challenges brought on by exponential technology gains has increased the demand for humanistic skills (e.g., Accenture, 2019; RBC, 2018). In a knowledge-based economy, neither can be ignored. As a result, higher education institutions are asked to combine “learning to do” with “learning to know”. That is, institutions are asked to create

graduates who have exceptional (and up-to-date) technical skills and a full complement of “soft” skills often affiliated with the humanities such as critical thinking, communication, leadership, and social intelligence. A troubling pressure associated with this growing expectation on higher education institutions is that society is expecting a faster time-to-market for these graduates. It is expected that learners should undertake more learning in less time. Without violating many of our fundamental assumptions about higher education, our modern conceptualization of higher education will find difficulty in creating an environment conducive to this graduate.

Higher education institutions need to dismiss the premise that individuals start their education from a common state of readiness, capability, and capacity as well as their baseline knowledge. While it is easier to assume a common readiness, capability, and capacity in highly competitive and selective higher education environments, it is far less likely to be supported in an environment that enables universal equal access. Similarly, because the rapid, easy, and free access to liberated information has enabled learners to self-initiate and self-curate their learning journey, the baseline knowledge of a first-time learner is likely to be increasingly different. In dismissing the premise of similarity of learners participating in higher education, institutions need to rapidly and on-scale assess where an individual is in their personal learning journey (their current knowledge) as well as the learner’s capacity, capability, and readiness to learn at a higher level.

Complementing the idea that not all learners start from the same place, we must also dismiss the premise that all learners are seeking a similar outcome. We need to recognize that an individual’s learning goals may be as unique as they are. Knowing that not all learners will have a clear and refined sense of their desired outcomes, let alone their desired learning goals, higher education needs to quickly and on-scale enable learners to continuously define and adapt their individual learning goals.

Having assisted the learner in assessing their unique starting point and unique end point, higher education needs to assist learners in creating a self-curated and personalized learning journey so that they may bridge the gap from where they are to where they would like to be.

By shifting the lens regarding learners’ entry and exit point to higher education, we are forced to

reconsider many of the supply chain management principles currently underpinning the business operations of higher education institutions. Take for instance the “unit” of a degree. Within this alternative lens, learners would only undertake the learning outcomes that they need and do not already have. In some, but certainly not all, cases a student’s learning outcomes may support the issuance of a degree.

Available for reinvestment then are those resources that would otherwise be directed toward having learners achieve learning outcomes that they either a) do not need, or b) already have. Higher education institutions may find themselves reviewing the health of individual learning outcomes (and potentially to the level of content) rather than reviewing the health of an entire program or credential. Similarly, it leads to an environment in which learning outcomes are sunset rather than entire programs. These shifts create a fundamental disruption to the manufacturing model underpinning many of the operations of higher education. At the core, this lens fundamentally changes the nature, makeup, and shape of the credential itself.

While not universal, a characteristic of many post-secondary credentials is that the credential signals a learner’s understanding of, if not mastery of, a cumulative knowledge base within a content domain (Council of Ministers of Education, Canada, 2007). This trend is exemplified in credential naming where the credential title specifies the content domain (e.g., BSc in Psychology) or even the sub-content domain (e.g., Bachelor of Commerce in Finance). The starting frame of a content domain then sets forth the parameters, real or perceived, regarding what is or is not relevant as a learning outcome. For instance, financial derivatives are not likely to be covered in a psychology degree but would be in a BComm (Finance). The application of a personalized learning journey calls into question the conceptualization of a domain-specific degree, the complement of technical and non-technical learning objects within the credential, how those learning objects are grouped (i.e., the discrete unit of a “course”), as well as the ordering and sequencing of learning outcomes (e.g., prerequisites, program levels, residency requirements, etc.). Because many credentials are organized around a content domain (CMEC, 2007), learners are forced to choose among content domains. If the learner changes their mind, in the traditional model, they may be required to “start again” depending on the course overlap between their first and second choice. To address this gap, higher education needs to explore ways to increase

the flexibility of credentials to meet the needs of the learner more fluidly while simultaneously upholding the rigour of a credential.

Why do people learn? While the question of complementing technical and non-technical learning outcomes in an individual's learning journey is important, the question does not represent the full gambit of reasonings behind why individuals may choose to initiate and curate their personal learning journey. On the one hand, both technical and non-technical skills may enable a learner to “do” by applying what they learn in context. They may also enable learners to “be” and “become” (Nan-Zhao, 2005) by enabling them to achieve their goals, adapt and thrive in a changing world, and reach their highest potential. To this end, the discrete learning recognition of a credential is not necessarily a shared outcome among learners. Similarly, it may not be a shared outcome among society and employers, as noted earlier. Whether this discrete set of learning outcomes is important to a learner and represents an end in itself rests singularly with the learner, not the higher education institution.

To suggest that a credential is the only goal is to suggest that learning can be completed in large episodes (typically a four-year period) and that individuals can achieve the necessary learning in this single episode to meet their needs through the rest of their life. That is, after four years of intensive learning, someone is prepared with the tools they will need to positively contribute to themselves and their communities throughout their life. Given the pace of change in the digital economy, this is simply not true.

Based on the premise that personalized learning pathways need to be as unique as the individuals curating them and personalized to meet individual needs on-scale, and that learning does not take place simply in discrete units, higher education institutions must also demonstrate an ability create a recognition system that can accommodate individualized needs throughout life.

Thus, the concept of enabling learners “to do” “to be” and “to become” must be a lifetime partnership between the learner and the institution. Only then can the institution enable the learner “to learn” (Athabasca University, 2019) and “to connect” (Athabasca University, 2019).

Not only do people want to learn, but they also want to contribute to knowledge (Fischer, 2002). Thus, our learning models need to recognize and adapt to the idea of crowd-sourced learning—a model in which learners are critical consumers of information, social exchangers of information, and active contributors to information.

Through the full complement of these three lenses, learners become knowledgeable while simultaneously fulfilling their need to contribute to knowledge throughout their personalized learning journey.

When and where do people learn? The premise that individuals can learn throughout life inherently recognizes that individuals will learn both within higher-education-supported learning pathways and beyond the reach of higher education institutions. If not, then the only place that learning occurs would be through a higher education institution—a simply untenable statement.

If we return to the premise of a self-curated, personalized learning journey, the concept of lifelong learning has two significant implications for a higher education institution. First, institutions need to rapidly recognize and sanction on-scale, formal (institutional) and informal (non-institutional) learning, and second, institutions need to remove the artificial separation between learning and life.

Returning to the assumption that a credential is a distinct learning goal, higher education institutions have sought to equate formal learning (i.e., credit and non-credit courses as part of a credential) with informal learning. The most recent formulations of this attempt are seen in prior-learning assessments, curriculum mapping, transferability agreements, and the like. Inherent in this approach is an attempt to equate someone's prior knowledge (or learning) with the knowledge (or learning) that they would garner by completing a course at the institution in question. Most of these equating processes, however, work on a level of analysis that is only tangentially related to learning—the course.

The logic follows that recognition toward a degree for a learner's pre-existing knowledge that was acquired outside the institution and potentially self-curated and personalized can only be provided if that knowledge is deemed (by a third party) to be equivalent to the knowledge that may

potentially have been acquired by the learner had the learner enrolled and successfully completed a course at the institution.

Moreover, because credit is not often given for parts of courses, but rather the entire course, the logic also follows that pre-existing knowledge (or learning outcomes) must exist in neatly packaged units that are of equal size (e.g., 1, 3, 6 credits worth) and of equivalent makeup (i.e., similar groupings of learning outcomes) to that of a course. Thus, higher education institutions know that people learn in other environments but will only formally acknowledge that learning equates to something easy for the institution to count.

Adding complexity to prior-learning recognition is the tendency for higher education institutions to require a “residency”. The concept being that to be granted a credential by an institution, the learner must have acquired a certain percentage of their knowledge (often 50 per cent or more) at the institution granting the credential. Combining the concept of residency with prior-learning assessments, lifelong learners may only seek recognition for pre-existing knowledge if it does not exceed 50 per cent of the knowledge contained in a credential. Using a different analogy, this would be similar to a customer looking to purchase the fourth novel in a series having read the first three, and being told by the bookstore that they must purchase the third book and read it again before the bookstore will sell them the fourth book.

The inherent challenge with this perspective is that formal and informal learning may not equate. Asking the learner to equate informal learning to formal learning is asking them to adapt to the higher education institution instead of the institution adapting to the learner. Moreover, seeking to equate formal and informal learning is to suggest that a learner is simply the sum of their formal learning, which we know inherently to not be true. An individual is the sum of many parts, including their learning.

Shifting our lens back to the learner, institutions need to ask a) what is the learning goal, b) where is the learner’s knowledge today, c) how can we best assist the learner in bridging the gap, and d) how can informal learning complement the formal learning to help bridge the gap? Higher education needs to be able to assess whether formal learning and informal learning have met the

learning outcomes of an individual rapidly and on-scale.

Taking the learning journey one step further, one is unlikely to find a learning outcome that requires the context of a “classroom”. Instead, learning goals tend to be embedded in a community context or a personal context. The place-based classroom environment, thereby, creates an artificial distinction between learning and the individualized context of the learner. Higher education institutions need to break down this artificial barrier.

A similar challenge can be found in the digital world. The global health crisis created by COVID-19 has increased society’s recognition of the digital divide. In both developed and developing countries, many learners do not have access to digital devices, reliable connectivity, or even reliable electricity. The fully digital learning environment, therefore, does not create a fully accessible environment that will effectively bridge the artificial barrier between learning and the learner’s context.

Initiatives such as work integrated learning (WIL) and changes in the didactic approaches to learning methods have sought to bridge the divide between the physical classroom and the learner’s context, but one may suggest that institutions of higher learning have not gone far enough. Rather, higher education needs to take the step toward community integrated learning (CIL). The premise here is that the context in which a learner finds themselves makes them a better learner and ultimately improves the learning environment. The question becomes how best to achieve this outcome in higher education.

Adding complexity, we are learning that there is a stark difference between emergency remote learning that is mediated by technology and true, purpose-built online learning experiences that require significant investments of time, effort, and money. As a result, we have seen the limitations of blended or hybrid environments that try to borrow from both digital and in-person learning experiences.

To be truly learner-focused, higher education needs to take the learning to the learner, not the opposite. With the aforementioned limitations in mind, higher education institutions need to turn

to creating true resiliency in their learning systems by designing purpose-built hybrid learning environments that enable learners to move seamlessly between physical and digital learning at their own pace and time. This will necessitate non-traditional thinking about the design of curriculum and the technologies that support it—both physical and digital.

3.2 The Final Arm—Affordability

The desire to explore alternative economic models within higher education is not new. An underlying motivation often focuses on the increasing operational expenses associated with delivering the core knowledge creation and dissemination mandates of higher education as well as the increasing costs associated with the expectations of learners to provide additional supports to the learning environment. With government funding decreasing over time, many of these expenses have been passed along to the learner, leading to a parallel motivation to explore alternative economic models because of increasing tuition costs. Regrettably, discussions regarding alternative economic models tend to focus on the simplistic economic motivators of increasing revenue or decreasing operational costs.

On the revenue side, institutions are increasingly looking to international learners as a revenue stream rather than an enrichment of the learning environment for domestic and international students alike. With the growing re-skilling and upskilling market, institutions are also looking to capture market share using derivative products related to primary learning experiences. Although these efforts regularly demonstrate innovation and creativity, these revenue streams tend to remain “close to home” and, with a couple of notable exceptions, do not necessarily stretch the vertical or horizontal strategic diversification of institutions.

With respect to mitigating operational expenses, institutions are increasingly finding themselves reviewing course or program offerings seeking to determine potential sunset opportunities. Core to the learning environment are the learning resources that enable and support the learner. In this regard, efforts have been made toward introducing a greater complement of Open Educational Resources (OERs) and similar efforts to mitigate the expenses incurred by modern learners. Complementary to the learning environment, institutions may find themselves reviewing the many

business processes embedded in complex organizations like higher education institutions. While well-intentioned, these lenses tend to focus on doing less of something the institution is already doing. Or, in the case of emergent learning resource strategies, undertaking a greater activity level. Beyond the point of operational contingencies, however, the reduction of resources injected into the system will eventually result in a collapse of the system overall unless it is matched by a reduction in the number of learners or research capacity of the institution—something quite contrary to narrowing the social, cultural, economic, and environmental divides spoken to at the beginning of this discussion.

One may argue that a risk associated with only focusing on the macro concerns of revenue or expense simply tweaks the current economic model as compared to fundamentally disrupting it. To authentically disassemble the iron triangle to enable universal equal access and the numerous adaptations to quality noted above, we need to challenge the assumptions that underline the enterprise processes and practices that we believe to be “normal” in our modern-day environment.

When one considers the economic and business processes that support the learner experience from recruitment through alumnus, there are literally thousands of decision points and assumptions made about creating and adding value to the learner. When we consider the emergence of the modern-day institution, however, we need to recall that many of these processes and decision points may have been created to select a finite number of learners, a contrary motivation to that of universal equal access. Similarly, many of these processes will have been created on the premise of limited capacity created by a specified number of “seats” in a specified number of teaching environments that are available for only 24 hours a day. To meet the true learner-centric environment outlined in this discussion and to do so from a technology-based infrastructure, there remain very few, if any, non-negotiable business and economic processes that would be considered normal in today’s university. In many respects, it is not simply a matter of evergreening or re-engineering these processes. Rather, it is about designing them and engineering them from the ground up based on the outcome being sought.

4. Conclusion

Extending the reasoning that modern higher education is a product of significant evolution over hundreds of years, it stands to reason that the institution of the future will have adapted to meet the needs of society going forward. Recognizing that the needs of society are evolving more rapidly, one may reason that the future iterations of higher learning are set to occur in a more dynamic and disruptive manner than in the past.

Learning needs to be universally accessible, individualized, and personalized, enabling the learner to self-start and self-curate their own learning journey. Higher education institutions need to meet learners where they are and assess the gap between an individual's knowledge and their desired learning goals. The learning environment must recognize that an individual's learning goals may change and adapt over time. Higher education needs to assess whether formal learning and informal learning has met the learning outcomes of an individual within the context or community the learner finds themselves in. Learners need to be able to be critical consumers of information, social exchangers of information, and active contributors to knowledge. Higher education institutions need to create true resiliency in our learning systems by designing purpose-built hybrid learning environments that enable learners to move seamlessly between physical and digital learning at their own pace and time. All this needs to be done rapidly and on-scale. And to top it all off, it needs to be done in a manner that is affordable to both the learner and the funders.

Given the societal expectations currently facing institutions of higher learning, the motivation to rise to the challenge of adaptation is clear and present. As has been suggested through this discussion, until we are willing to break down several of our core assumptions, we will not be truly learner-centric or society-centric—effectively placing the learner or society at the center of what we do. Only through fundamental change might we dismantle the conundrum we have created for ourselves related to the iron triangle. As a system, we need to ask ourselves, what is the long-term, differentiated, sustainable value proposition? What can we do for the learner and society better and more effectively than anyone else? If our focus remains on fulfilling our role as social enterprises that enable individuals to create and curate knowledge so that they may improve

the social, economic, cultural, and environmental quality of life in their communities, and we view this opportunity on-scale, then we stand the chance of authentically bending and mending the divides that currently occupy our cultures.

References

- Accenture, 2019. Accenture technology vision 2019. [2021-01-19]. <https://www.accenture.com/-/media/PDF-94/Accenture-TechVision-2019-Tech-Trends-Report.pdf#zoom=50>.
- Athabasca University, 2019. Imagine learning framework. [2021-01-19]. <http://opvpa.athabascau.ca/learning-framework/docs/LearningFramework.pdf>.
- BLANDEN J, MACHIN S, 2004. Educational inequality and the expansion of UK higher education. *Scottish journal of political economy*, 51(2): 230-249.
- CMEC, 2007. Ministerial statement on quality assurance of degree education in Canada. [2021-01-19]. <http://www.cicic.ca/docs/cmec/QA-Statement-2007.en.pdf>.
- CONNLEY C, 2018. Google, Apple, and 12 other companies that no longer require employees to have a college degree. CNBC. [2021-01-19]. <https://www.cnbc.com/2018/08/16/15-companies-that-no-longer-require-employees-to-have-a-college-degree.html>.
- COUNTER R, 2018. Want a job in Canadian tech? Don't worry about that University degree. [2021-01-19]. <https://www.canadianbusiness.com/work/want-a-job-in-canadian-tech-dont-worry-about-that-university-degree/>.
- Encyclopedia Britannica, 2019. University. Encyclopedia Britannica. [2019-06-25]. <http://www.britannica.com/topic/university>.
- FISCHER G, 2002. Beyond "couch potatoe": from consumers to designers and active contributors. *First monday*, 7(12).
- FRIJHOFF W, 1996. Patterns//Ridder-Symoens H D. Universities in early modern Europe, 1500-1800, a history of the university in Europe. Cambridge: Cambridge University Press.
- Google, 2019. The rise of personal searches. [2021-01-19]. <https://www.thinkwithgoogle.com/feature/personal-searches/#/>.
- HARVEY D, 2018. Make way for micro-credentials. [2021-01-19]. <https://www.hrreporter.com/article/36126-make-way-for-micro-credentials/>.
- JERANT A, HENDERSON M C, GRIFFIN E, et al., 2019. Do admissions multiple mini-interview

- and traditional interview scores predict subsequent academic performance? A study of five california medical schools. *Academic medicine*, 94(3): 388–395.
- KASRIEL S, 2017. Skill, re-skill, and re-skill again. How to keep up with the future of work. [2021–01–19]. <https://www.weforum.org/agenda/2017/07/skill-reskill-prepare-for-future-of-work/>.
- LEVI A W, 1942. The social function of the humanities. In *The educational forum*, 6(40): 341–349.
- LEVI A W, 1983. The humanities: Their essence, nature, future. *Journal of aesthetic education*, 17(2): 5–17.
- LEWINGTON J, 2019. University students can now earn badges to recognize their merits. [2021–01–19]. <https://www.macleans.ca/education/university-students-can-now-earn-badges-to-recognize-their-merits/>.
- MARGINSON, SIMON, 2016. Higher education and growing inequality. *Academic matters*, 1.
- NAN-ZHAO Z, 2005. Four “pillars of learning” for the reorientation and reorganization of curriculum: reflections and discussions. [S. l.]: International Bureau of Education- UNESCO.
- RBC, 2018. The coming skills revolution. Humans wanted. How Canadian youth can thrive in the age of disruption. [2021–01–19]. https://www.rbc.com/dms/enterprise/futurelaunch/_assets-custom/pdf/RBC-Future-Skills-Report-FINAL-Singles.pdf.
- RUEGG W, 1992. *Epilogue: the rise of humanism*// Ridder-Symoens H D. *Universities in the middle ages, a history of the university in Europe*. Cambridge: Cambridge University Press.
- SABOT R, ROSS D, BIRDSALL N, 2016. Inequality and growth reconsidered: lessons from East Asia. *World bank economic review* 9(3): 477–508.
- SCHAUNER S, HARDINGER K L, GRAHAM M R, 2013. Admission variables predictive of academic struggle in a PharmD program. *American journal of pharmaceutical education*, 77(1): 8.
- SCOTT J C, 2006. The mission of the university: medieval to postmodern transformations. *Journal of higher education*, 77(1): 10–13.
- SHARPE R, BEETHAM H, DE FREITAS S, 2010. *Rethinking learning for a digital age: how learners are shaping their own experiences*. London: Routledge.
- SHIMELES A, 2016. Can higher education reduce inequality in developing countries?. *IZA world of labor*, 7: 273.

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS



Asha Kanwar



Sir John Daniel

The aim is to draw lessons from the COVID-19 experience that will make education systems more resilient in future.

Prof. Asha Kanwar is the President and Chief Executive Officer of the Commonwealth of Learning (COL). Prof. Kanwar received her undergraduate, Master's and MPhil degrees from the Panjab University in India and a DPhil from the University of Sussex, UK. Her areas of expertise include open distance and technology-enabled learning, open educational resources, quality assurance, gender and organisational development. Prior to joining COL, Prof. Kanwar served as Pro-Vice Chancellor at the Indira Gandhi National Open University (IGNOU) in New Delhi, India. With over a hundred publications, Prof. Kanwar has received several awards including the International Council for Open and Distance Education (ICDE) Prize of Excellence, and the Meritorious Service Award for outstanding contributions in open and distance education from the Asian Association of Open Universities (AAOU). She has been conferred with eight honorary doctorates from universities in Asia, Africa, Europe and North America.

Sir John Daniel is a citizen of Canada and the UK and a former president of the Commonwealth of Learning (2004–2012). He was educated at Christ's Hospital school, University of Oxford and Université de Paris. After completing degrees in Metallurgy, he taught at the École Polytechnique de Montréal before studied in Educational Technology which led him to re-orient his career to open and distance education and take up appointments that included 17 years as a university president at Laurentian University, Ontario and the UK Open University. After serving as Assistant Director-General for Education at UNESCO from 2001 he moved to COL in Vancouver. He was knighted in 1994, appointed Officer of the Order of Canada in 2013 and holds 32 honorary doctorates from universities in 17 countries and regions. His 390 publications include *Mega-Universities and Knowledge Media: Technology Strategies for Higher Education* and *Mega-Schools, Technology and Teachers: Achieving Education for All*.



Commonwealth of Learning
<https://www.col.org/>



Acsenda School of Management
<https://acsenda.com/>

Education in the Commonwealth During COVID-19: From Response to Resilience

Asha Kanwar, President of Commonwealth of Learning; John Daniel, Acenda School of Management, Canada

Abstract

This paper examines the impact of COVID-19 on education in the Commonwealth Member States from four perspectives: social, pedagogical, technological and psychological. Overall governments have responded well to the crisis. Research indicates that high achieving educational systems are usually better at countering inequalities. Countries have different technological systems. Using them well in a crisis requires a coordinated approach for deploying resources and monitoring progress. Responses to crises must avoid exacerbating existing educational disparities. Teacher training and professional development should include scenarios for coping with crises. Institutional disruptions lead to anxiety for both students and parents. Reassuring them with targeted communications must be a priority. Countries can extend equality of access and create reservoirs of resilience by having open and distance learning (ODL) arrangements in place. It is important to ensure that the lessons learned during COVID-19 are converted into policies and practices to develop strong and resilient systems that are ready to face future disasters.

Key Words

open and distance learning; resilience; COVID-19; pedagogical; social; psychological; technological

1. Introduction

The COVID-19 pandemic has had a global impact. Closures of schools and colleges aimed at slowing the spread of infection took 90% of the world's students out of their classrooms. By May 15th 2020, an estimated 574 million students were out of school across the Commonwealth. Provisions for them to continue studying at home varied widely. The following Tab. 1 shows the use of technologies by selected Commonwealth governments.

Tab. 1 Use of Technologies by Selected Commonwealth Governments

Country	TV & radio channels	Interactive Radio	eLearning portal/hub	YouTube/ WebTV channels	Print & App distribution	OER/ online	Computer based learning
<i>Caribbean</i>							
Bahamas ^①			√				
Belize ^②	√		√		√		
Jamaica ^③			√				
Guyana ^④	√	√	√				
<i>Africa</i>							
Botswana ^⑤	√						
Eswatini ^⑥	√		√	√	√		
Kenya ^⑦	√	√		√			
Namibia ^⑧	√	√		√	√		

① <https://www.bahamasvirtuallearning.com/>.

② Information from COL Focal Point.

③ <https://bit.ly/3ejavZQ>.

④ <https://bit.ly/2ZDIB6B>.

⑤ <https://bit.ly/3d6wsuP>.

⑥ Information from COL Focal Point.

⑦ <https://bit.ly/3gznnx0>.

⑧ <https://bit.ly/2McWYap>.

(Continued)

Country	TV & radio channels	Interactive Radio	eLearning portal/hub	YouTube/ WebTV channels	Print & App distribution	OER/ online	Computer based learning
Nigeria ^①			√				√
South Africa ^②	√		√			√	√
<i>Asia</i>							
India ^{③, ④, ⑤, ⑥}	√		√	√		√	√
Malaysia ^⑦			√	√			
Maldives ^⑧	√		√		√		
Sri Lanka ^⑨	√						
Pacific							
Fiji ^⑩	√					√	
Kiribati ^⑪			√			√	
Samoa ^⑫	√					√	
Solomon Island ^⑬	√					√	

① <https://bit.ly/36QfOgJ>.② <https://bit.ly/2U059eb>.③ <https://swayam.gov.in/>.④ <https://nroer.gov.in/welcome>.⑤ <https://nptel.ac.in/>.⑥ <https://www.swayamprabha.gov.in/>.⑦ <https://bit.ly/2yyz7hY>.

⑧ Information from COL Focal Point.

⑨ <https://bit.ly/2M2ukZc>.⑩ <https://bit.ly/2AeBKWw>.

⑪ Information from COL Focal Point.

⑫ <https://bit.ly/2M2wmsy>.

⑬ Information from COL Focal Point.

(Continued)

Country	TV & radio channels	Interactive Radio	eLearning portal/hub	YouTube/ WebTV channels	Print & App distribution	OER/ online	Computer based learning
<i>Europe</i>							
Cyprus ^①			√	√	√		√
Malta ^②			√	√		√	√

The aim is to draw lessons from the COVID-19 experience that will make education systems more resilient in future. Except where national systems had previously coped with epidemics like SARS or Ebola, most countries had to scramble to address the challenge of the COVID-19 pandemic. New approaches to teaching and learning had to be improvised and implemented in a matter of days with results that differed widely from place to place. Yet the experience of previous crises suggests that unless special efforts are made to build resilience for the future, the lessons of COVID-19 will soon be forgotten (Fox, 2004; Johnson et al., 2014).

As countries gradually return to more “normal” ways of educating and training their people, each must hope that the first wave of COVID-19 will not be followed by further waves of infection that necessitate closing institutions again. But COVID-19 is not the only disruptive force that the global community and individual states will face in the coming years. As well as further pandemics and epidemics, climate change will affect all countries, albeit differently. As mean temperatures rise tropical cyclones will become more extreme—though perhaps less frequent. Some parts of the planet will become inhospitable for human settlements.

At the local level various disruptions can be expected. The expansion of ocean water in a warming world, combined with increased meltwater from glaciers and the breakdown of polar ice sheets, is already producing a one centimetre rise in sea levels every three years—a figure that could increase sharply were these ice sheets to collapse. This will disrupt life in coastal regions, just

① Information from COL Focal Point.

② Information from Director, Commonwealth Centre for Connected Learning.

as droughts and wildfires will likely become more frequent in drier areas. Added to this are the threats of civil war and terrorism, with which some countries are already all too familiar, and the mass migrations of people that often follow.

Pandemics, climate change and social/political unrest are realities that we will continue to face in the future. How can governments build education systems that not only respond to disasters but are resilient to them? They should use the challenge of better preparing their education systems for the next pandemic to make them permanently more resilient to shocks in two ways. First, by rendering education systems less susceptible to disruptions of all kinds. Analogous to the cybernetic Principle of Requisite Variety, this means having systems ready with responses for the crises most likely to confront them.^① Second, by having coordinating mechanisms in place among the components of educational systems to mitigate the impact of a crisis more effectively than occurred with COVID-19, where some responses were described as a “free for all”.

The response required is reviewed from four perspectives: social, pedagogical, technological and psychological (Mahajan, 2020). The challenge of trying to manage COVID-19 has reminded authorities to take a broad view of their education systems. Ensuring that any emergency measures taken do not exacerbate existing inequalities among pupils is as important as modifying curricula to support home schooling and harnessing technology for teaching and learning. Finally, reassuring anxious students and parents is a vital task for institutions and governments.

These four aspects of the response are addressed in turn.

2. Social Issues: Continuing to Combat Inequalities During Crises

A World Bank study shows that while the children of the rich will forge ahead during the crisis, the children of the poor will be even more deprived and marginalised and may drop out of the

① <http://requisitevariety.co.uk/what-is-requisite-variety/>.

system altogether. The COVID-19 crisis has had a devastating impact on economies in the short term and may lead to significant loss of learning (Iqbal et al., 2020) and future earning potential (Psacharopoulos et al., 2020) in the longer term. The impact will be more visible on the vulnerable, particularly girls (United Nations, 2020). Economic recession will also have its impact on the ability of poor and middle-income families to invest in the education of their children (Thomas, 2020). Millions, notably migrants and refugees, have been displaced by the crisis. Learning on the move while struggling to find basic food and shelter is a huge challenge.

The increasing inequalities among countries and within the populations of individual nations are a major challenge of our times. Education, through schooling, is the most powerful tool that governments can use to counter inequality, promote social mobility and widen opportunities. The OECD's Programme for International Student Assessment (PISA), which has reached three million students in 90 countries so far this century, measures 15-year-olds' ability to use their reading, mathematics and science knowledge and skills to meet real-life challenges.^① PISA reports the performance scores in each jurisdiction and also their spread. In general, countries with higher median scores also have lower spreads between the top and bottom performers. High achieving school systems are, therefore, also better at countering inequalities.

The relationship between the performance of education systems and the resources invested in them is complex. Lavish funding does not correlate well with high achievement. Strongly performing systems usually invest equitably in rich and poor areas alike, sometimes adding extra support in disadvantaged regions. But, as well as an equitable school system, countries can extend the notion of equal access and create reservoirs of resilience, which they can tap into during crises, by having ODL arrangements already in place.

The establishment of the Open University (OUUK) in the United Kingdom in 1969 was a historic moment in the democratisation of higher education. Lord Crowther, the founding chancellor, stated that the mission of the Open University was to be open to people, to places, to methods and

① <https://www.oecd.org/pisa/>.

to ideas, throwing open the ivory towers^① (Perry, 1976). Its aim was to promote social justice by providing a second chance to those who had missed the opportunity of higher education earlier. Its relevance was quickly recognised worldwide and today there are 30 other open universities in the Commonwealth catering to over four million learners every year (COL, 2017). Open schooling, which is secondary education offered at a distance, is a cost-effective means of reaching learners who would otherwise not have the opportunity. Millions more pupils are enrolled in open schools and distance education has become the preferred mode of study for working people with family responsibilities (Tait, 2018), women and girls (Kanwar et al., 2001), and people with disabilities (UNESCO, 2016).

COVID-19 and similar crises in future are likely to exacerbate further the challenges faced by the vulnerable (Bassett et al., 2020). Therefore, it is imperative to extend the provision of distance education for all these groups, knowing that ODL systems become a vital resource for whole populations, when they are rendered educationally vulnerable by pandemics and other upheavals.

Furthermore, the curricular variety and reach of open universities and open schools have been greatly enhanced by the growing movement to make educational materials freely available as Open Educational Resources (OERs) that anyone can copy, use or modify.^② OERs are another major step in harnessing education to social justice (Lambert, 2018; Hodgkinson-Williams et al., 2018).

The strategies used to provide education to the nomadic populations in Africa, such as the School-in-a-Box, are also relevant. Print materials, Aptus^③ servers and mobile devices in the hands of educated facilitators within the migrant communities ensure that learning is not a complete casualty in these times. There are plenty of successful examples of bridging the last mile and making a difference to marginalised populations (see Box 1).

① <https://bit.ly/3gtrwCG>.

② <https://en.unesco.org/themes/building-knowledge-societies/oer>.

③ <https://aptus.col.org/>.

BOX 1: Examples of Reducing Social Inequality

Example 1: Having left school at 12, when she was married, Rehana Sultan of Bangladesh was able to go back to school at the age of 22 when her three children asked her to help with their homework. This was only possible by enrolling in an open school.

Example 2: The Ministry of Education in Guyana is using OER to reach remote Amerindian communities by translating quality content in the local languages.

Example 3: Preeti Daby in Mauritius could not pass her class 9 exam because of the lack of a braille textbook. Now that she has been provided learning resources and assistive devices she is doing well in class and plans to go to university.

Example 4: Illiterate women in India learnt corporate finance through their basic mobile phones and established a farm producers' company. In the past two years over 150,000 women in 11 countries have been lifted out of poverty and every dollar invested has resulted in assets worth 9 dollars.

Countries set up ODL systems (open universities; open schools; open polytechnics; and repositories of OER) with the express intention of making access to quality education more equal.

It is ironic, therefore, that the scramble by schools and universities to move off campus and online in response to COVID-19, has tended to widen the inequalities of educational opportunity rather than reduce them. Educated middle class parents with laptops and Internet access can readily support their children to learn at home, whereas poorer parents with none of these advantages—as well as anxieties about their own finances—can give little help.

Yet Commonwealth countries have benefited from ODL systems in past crises. When a polio epidemic struck New Zealand in 1948 all schools were closed and the Correspondence School prepared lessons to be sent to every home in the country, as well as radio broadcasting lessons from January to mid-April (C. Seelig, Personal Communication, May 24, 2020). Following this tradition, during the COVID-19 pandemic, New Zealand's Open Polytechnic has made its iQualify online learning platform available free-of-charge to tertiary education and training organisations to help them convert to online teaching during the lockdown period, an offer taken up by over 20 organisations.^① When Botswana closed its schools in 2011 because of a teachers' strike the nation's established open schooling network, BOCODOL (now Botswana Open University), responded immediately so that pupils could continue to learn at home. When Cyclone Gita devastated the Kingdom of Tonga, the Aptus device, created by the Commonwealth of Learning, was loaded with secondary school content to provide a "classroom without walls" where learners could access digital materials without electricity or Internet.^②

It is not enough, of course, to have an ODL infrastructure in place. Resilience requires that there also be a coordination mechanism to expand and optimise its benefits in a crisis. The New Zealand Open Polytechnic making its online learning platform freely available to 20 other organisations in the country is one such example. Similarly, Botswana Open University has shared its course materials with other public universities. India has a rich network of open schools, open universities and dual-mode institutions that already operate both on campus and at a distance. There is also a government-sponsored network, Swayamprabha, to bridge the digital divide for people who have been untouched by the IT revolution and therefore outside the knowledge economy. Governments can create coordination mechanisms to harness these resources in support of the whole education system in a crisis like COVID-19.

① <https://bit.ly/2X3V5CY>.

② <https://bit.ly/3dh6epT>.

3. The Pedagogical Challenge: Flexible Approaches to Teaching and Learning

The World Bank estimates that there is a “learning crisis”—students in school are not learning. In West and Central Africa, fewer than 45% of Grade 6 students achieved competency level in maths and reading. “More than 60 percent of primary school children in developing countries still fail to achieve minimum proficiency in learning, according to one benchmark” (World Bank, 2018). Based on previous experiences of post-disaster impacts on education, researchers at the World Bank predict that this learning crisis could worsen (Iqbal et al., 2020). To reduce the negative impact of school closures, it is essential to build resilience in teaching and learning systems.

3.1 Teaching-Learning Systems

A resilient education system should be ready to adapt to situations, such as COVID-19, when teaching and learning has to be carried out in new circumstances. Designing such a system starts from the fact that all teaching and learning has two essential components. The first is an interactive component where teacher and student communicate directly and simultaneously. In such exchanges, whether in the classroom or by telecommunications, students’ questions can be addressed immediately, and teachers can see how well they are learning. But, second, there is also an independent component. Here students study or prepare material, suggested by the teacher—or determined by themselves—in their own time. All approaches to education have these two components, whether the framework around them is a school with classrooms or people studying at home.

A resilient system has to be ready to blend the interactive and independent components of education in different ways according to circumstances. This is easier if educators, both teachers and administrators, are aware of the strengths and weaknesses of each component. In the current pandemic, when institutions had to change within a matter of days to operating online, most had no time to prepare materials for independent learning and simply tried to move the interactive classroom experience online. Preparing for resilience means investing in quality learning

materials, either developed in-house or chosen from among the variety of OER available from many sources. Having such materials ready, whether as part of normal campus teaching or for emergency off campus moves, has two significant advantages.

First, learners and teachers do not have to communicate simultaneously. Asynchronous working gives teachers flexibility in preparing learning materials and enables students to juggle the demands of home and study. Teachers do not need to deliver material at a fixed time: it can be posted online for on-demand access and students can engage with it using Wikis, Blogs and email to suit their schedules. Teachers can check on students' participation periodically and make online appointments for students with particular needs or questions. Having a pool of asynchronous learning materials gives teachers and students more room to breathe. Asynchronous learning works best if prepared in digital formats, even if some students use printed versions of the material. Asynchronous video lessons are usually more effective—as well as easier to prepare—if they are short (5–10 minutes).

Second, an education system that invests in materials for asynchronous use also gains economic advantages, because they can be reproduced at little cost and used many times. These economies of scale explain why open schools and open universities can handle large enrolments. Once learning materials are available, the cost per additional student for the independent component of their studies is low. While the cost of providing the interactive component of education through telecommunications or local study centres is more sensitive to student numbers than the independent component, the combination of the two is cost-effective. It is also educationally effective.

Research shows that there is “no significant difference” between distance and traditional classroom instruction in terms of learning outcomes (Russell, 1999). Meta-analysis of numerous research papers revealed that distance education is as effective as campus provision for leading to learning outcomes and student satisfaction (Bernard et al., 2004; Means et al., 2013).

The importance of access to learning materials cannot be over-emphasised. Research shows that access to textbooks is effective in improving learning, increasing literacy scores by 5%–20%

(Fehrler et al., 2009). Meta-analysis of research on the three types of interactions (student-content, student-teacher and student-student) that occur in distance education shows that, while all three types of interactions are associated with increasing achievement outcomes, student-content interaction is the most important. Asynchronous distance education has strong association with learner achievement (Bernard et al., 2009).

Yet in some countries every student does not have access to textbooks. Adopting OER mapped to local curricula can address this issue. Research commissioned by COL in Antigua and Barbuda demonstrated that the supplemental use of OER could reduce costs and improve student learning by 5.5% (Emarge Ed Consultants, 2017). Where online facilities are not available, especially for migrants and refugees, the content can be delivered to learners as printed text.

3.2 Curricula

What are the curricular implications of creating a resilient education system? The response must vary by jurisdiction. Some have prescriptive national curricula and have identified quality content mapped to these curricula to support teachers during COVID-19. In other jurisdictions teachers have wide discretion to choose programme content. General advice is for teachers to keep two objectives in mind. While it is important, during crises, to continue to orient students' learning to the formal curriculum and the assessments/examinations for which they were preparing, it is also vital to maintain students' interest in learning by giving them varied assignments. For example, through project work that sets the reason for the upheaval in the education system in a wider global and historical context. For such enrichment, teachers can draw on the abundance of high-quality learning material now available as freely usable OER. The OpenLearn website, for example contains over 1,000 courses at both school and tertiary level.^①

3.3 Assessment

How can states make assessment systems more resilient? In the COVID-19 crisis, examination

① <https://www.open.edu/openlearn/>.

systems did not prove to be very resilient. End-of-year examinations were cancelled or suspended by many examining bodies (e.g. the International Baccalaureate Organisation). This left millions of students, even those who do not relish examinations, feeling left in the lurch. At this writing (May 2020), as COVID-19 still rages in most parts of the world, these bodies are unable to say when they will resume normal operations and how, if at all, they will provide results for this year's cohort. Teachers are eager for advice on how to assess learners for these formal exit examinations so that they do not lose a year.

Institutions active in distance learning often start the process of course construction by designing the student assessments that will be part of it. This is a way of clarifying learning objectives and content that can make an education system more resilient. Teachers faced with the possibility of a sudden transition to remote operation should consider adopting this technique. It will help them to determine the parts of the standard curriculum on which they will focus as well as their aims in including other topics.

Well before the outbreak of the COVID-19 pandemic many teachers and institutions were starting to think differently about assessment. They are coming to conceive it as a continuous rather than an occasional process, a collaborative activity focusing on verifying knowledge, competence and capabilities rather than on judging their status within a group of learners. The role of assessment is experiencing a renaissance as educators explore ways in which authentic assessment and feedback can be used to enable learning. COVID-19 gave further impetus to thinking about new methods of assessment by making the proctored examinations that feature in traditional approaches difficult, if not impossible.

Contact North (2020) provides a list of various ways in which assessment is changing. Those that might increase system resilience include:

- Basing credentials entirely on competence assessment, not coursework.
- Directing students to qualifications available through the study of Massive Open Online Courses (MOOCs).
- Assessment on demand, automated assessment generation, and automated assessment marking.
- Video-based assessment of competencies.

- Adaptive systems that adjust learning content based on student performance on an assessment.
- Peer-to-peer assessment (which now has various supporting systems as a result of its use in mass-enrolment MOOCs).
- E-portfolios. These enable students to share a portfolio of their work, including projects, videos, testimonials and assignments, with potential employers. The UK has a mandatory guide for the construction of these.
- Transnational Qualifications Frameworks (TQF) developed by 32 small states of the Commonwealth with COL, functions as a translation device, making qualifications more readable, transferable and transparent, which in turn, helps learners and workers move between countries or change jobs (COL, 2015).

3.4 Professional Development of Teachers

More flexible approaches to teaching and learning, including blending interactive and independent components, make added demands on teacher training and continuous professional development. Teacher training programmes should include the interplay among technology, pedagogy and subject matter (Mishra et al., 2006) to broaden teachers' capabilities. The quality of learning will be increased by teachers' imaginative and creative capacity to use technology appropriately. A comprehensive meta-analysis by Hattie (2003) emphasises that teachers matter. Students who are taught by expert teachers demonstrate integrated, coherent and higher levels of abstraction in understanding of concepts in comparison to others.

3.5 Harnessing Technology to Teaching and Learning

As governments and institutions scrambled to maintain education during the COVID-19 pandemic, they focused particularly on finding and mastering technologies to reach students at home, where possible for interactive sessions. Although appropriate technologies are clearly vital components of resilient education systems, this report began by emphasising the social mission of education and the fundamentals of teaching and learning. Technology should always support those central purposes.

The current COVID-19 crisis has highlighted, yet again, the uneven development of technology across the world (see Tab. 2). While only about 50% of the global population has access to the Internet, the percentage is even lower in Asia (40.40%), Africa (32.49%) and the Pacific (32.73%). Only the Caribbean region, at 60%, exceeds the global average.

Tab. 2 Internet Access in the Commonwealth

Region (Commonwealth countries)	Individuals using the Internet (% of population), 2017
Caribbean	60.00%
Africa	32.49%
Asia	52.71% (40.40% excluding Brunei and Singapore)
Pacific	42.90% (32.73% excluding Australia and New Zealand)

Source: Calculated from The World Bank Data at <https://data.worldbank.org/indicator/IT.NET.USER.ZS>.

Access to mobile subscriptions is much higher, exceeding 100% in all the Commonwealth regions except the Pacific (see Tab. 3). This presents an opportunity to build a system of teaching and learning that is cloud based and mobile friendly supported with other affordable and accessible technologies.

Tab. 3 Mobile Subscription in the Commonwealth

Region (Commonwealth countries)	Mobile subscriptions (% of population), 2017
Africa	100.23%
Asia	122.18%
Caribbean	113.17%
Pacific	85.55%

Source: Calculated from World Bank Data at <https://data.worldbank.org/indicator/IT.CEL.SETS.P2>.

In responding to COVID-19, Commonwealth countries used a variety of technologies to take education out of the classrooms and into the students' homes (see Tab. 1). Once the challenge of responding to COVID-19 recedes, those countries listed in Tab. 1, and others across the

Commonwealth, will doubtless assess the effectiveness of the technologies that they used. This could be the basis for developing more resilient educational ecosystems for the future.

For example, since 2009, the government of India has invested systematically in information and communication technology (ICT) for education in both schools and higher education. As a result, India now has a robust ICT in education policy at the school level. It supports increased access to ICTs, digital content and teacher capacity building, as well as a national OER repository, a MOOC platform (SWAYAM), and a bouquet of dedicated television channels for education available via Swayamprabha providing access to digital content to both teachers and learners. However, optimal use of these systems during a crisis requires a coordinated approach with a centralised mechanism for deploying resources and monitoring progress.

In developing country-specific strategies, the following should be considered:

- Use educational radio in a planned manner to support teaching at the school level and involve parents in the teaching and learning process.
- Establish dedicated TV channels for education, especially for teacher capacity building and for providing curriculum-based support at the national level.
- Set up national digital content platforms to provide quality OER mapped to the curriculum.
- Use cloudbased online learning platforms accessible via mobile phones.
- Provide financial support to access mobile devices for learning, especially for the disadvantaged, including for girls and persons with disabilities.

Tab. 4 lists the pedagogical affordances of various technologies.

Tab. 4 Technologies and Pedagogical Affordances

Technology	Affordances (what it can do, where it can be suitably used)
<i>Asynchronous Possibilities</i>	
Printed text	Handy to move with anywhere, anytime; can be sent by post and reach anywhere
Online course	May use synchronous tools; can deliver multiple media, offer interaction and assessment

(Continued)

Technology	Affordances (what it can do, where it can be suitably used)
<i>Synchronous Possibilities</i>	
Radio	Highest reach in many countries; can also be interactive with phone-in programmes
Television	Can provide visual experiences to learning; be interactive with phone-in options
Video conference tools	Provides real-time experience for the learners; simulates face-to-face activities

There are also issues around cyber security during these times, as hackers and cyber criminals thrive in chaotic situations. It is important to be careful while providing online access, particularly, to children. Computers and mobile devices used by children should be updated with virus protection and age-appropriate filtering tools. Parents too need to be prepared to support children to continue to learn during any crisis.

3.6 Being Psychologically Prepared

A study on teachers' responses to the 2011 Christchurch earthquake in New Zealand revealed the important role played by teachers in post-disaster recovery, particularly for providing emotional support to children and the communities (Johnson et al., 2014). The economic lockdowns occasioned by COVID-19 have created enormous stress on teachers, students and parents. Incidences of child abuse, domestic violence and sexual exploitation have been reported in several countries. By impacting schools it often deprived students of the mid-day meals that supported their studies. Many parents have lost their jobs, sometimes leading to mass internal migrations. Education inevitably takes a back seat at such times. Many students trying to learn from home face isolation, lack of peer support and physical inactivity. Those in their terminal school year are anxious and stressed due to the uncertainty about the next phases in their lives. Teachers, students and parents shared their experiences about the impact of COVID-19 on their lives (see Box 2).

BOX 2: Some Experiences from the Stakeholders

“I work with my parents in the vegetable garden in our yard. This is similar to the practice of physical exercise that I did in my school regularly. I read story books and my textbook. I draw pictures; help my mother in household work. Now I don’t play outside my home.” —Mokseda Akter, Grade 5 Student, Bangladesh.

“We try to keep phone communication with our relatives to get and provide mental support. I and my husband and children spend more time together to overcome our fear and frustration.”—Ms. Sundor Nesa, Parent, Bangladesh.

“Despite feeling worried and stressed at times, I had to stay positive to ensure my family is ready in the best way possible to adapt to the changes we had to undergo in our lifestyle.”—Tara, Parent, Samoa.

“The pandemic brought my students closer; we were able to share our experiences online with the availability of Moodle.” —Leua Latai, Sr. Lecturer, National University of Samoa.

Crises of all kinds are very anxious times for students and parents. They disrupt the lives of students in various ways, depending on their course of study and the point they have reached in their programme. Those ending one phase of their education and moving on to another (e.g., from school to tertiary, or tertiary to employment) face particular challenges. Education systems and their institutions should make the reassurance of students and parents through targeted communication, a priority. Teachers and counsellors will often have to provide this reassurance without clear answers to the general question of when the disruption will end and to specific queries about arrangements for replacing cancelled examinations or changes to procedures for admission to the next level of study. Teachers and school personnel may be better able than

parents to assuage the anxieties of students in deprived situations. Some help lines and resources outside the school system specialise in addressing emotional and psychological challenges and welcome referrals. The National Institute of Open Schooling in India uses a call centre to provide support to the learners. Jamaica has provided parents with SIM cards to access help lines.

For students the hardest aspect of sudden school closures, especially when combined with injunctions to stay at home, is being torn away from their social group almost overnight. In crises (e.g. infectious diseases) where physical distancing is mandatory, some social contact may be restored through chat groups and meeting rooms on the virtual technologies that are used for teaching. Where physical distancing is not required, normal extra-curricular activities and opportunities for sport can be increased.

Wherever the sudden vacating of schools and colleges may be a possibility there are practical preparations to make. Students should identify the books, equipment, etc. that they will need for study at home. Staff should have protocols in place for continuing arrangements for safeguarding children; for the division of responsibilities between departments; and for remaining in contact collectively for mutual support. Teachers should ensure that regular feedback is provided, and test results and reports are up to date.

4. Conclusion

Commonwealth countries have done a remarkable job in guiding their education systems to face the challenge of COVID-19. Most had to close their schools and colleges and make arrangements, in short order, for continuing to educate pupils and students at home. The immediate challenges of COVID-19 have forced governments to review their systems and they should not let their responses to this crisis go to waste. They should assess the effectiveness of their country's preparedness for COVID-19 with the aim of making its education system more resilient to shocks and upheavals of all kinds in the future.

An immediate consequence of such crises is to exacerbate the existing inequalities within

countries, especially as manifest in more limited access to education for poorer children, girls and persons with disabilities. Because quality education systems also tend to be equitable systems, governments should pursue both quality and equity as they develop their networks of educational institutions to become resilient. These considerations are especially important in making decisions about expanding ICT infrastructures and distance learning arrangements: essential components that provide flexibility and choices to reach people wherever they are.

Finally, a resilient system must be greater than the sum of its parts. Governments have advisory bodies for different aspects of their education provision. Establishing a group to advise on crisis readiness could help a country's educational institutions react in a coordinated manner to future crises.

References

- BASSETT R M, ARNHOLD N, 2020. COVID-19's immense impact on equity in tertiary education. [2021-01-19]. <https://blogs.worldbank.org/education/COVID-19s-immense-impact-equity-tertiary-education>.
- BERNARD R M, ABRAMI P C, BOROKHOVSKI E, et al., 2009. A Meta-analysis of three types of interaction treatments in distance education. *Review of educational research*, 79(3): 1243–1289.
- BERNARD R M, ABRAMI P C, LOU Y, et al., 2004. How does distance education compare with classroom instruction? A meta-analysis of the empirical literature. *Review of educational research*, 74(3): 379–439.
- COL, 2015. Transnational qualifications framework for the virtual university for small states of the commonwealth. [2021-01-19]. <http://oasis.col.org/handle/11599/501>.
- COL, 2017. Open universities in the commonwealth: at a glance. [2021-01-19]. <http://oasis.col.org/handle/11599/2786>.
- COL, 2020. Guidelines on distance education during COVID-19. [2021-01-19]. <http://oasis.col.org/handle/11599/3576>.
- Contact North, 2020. Ten radical ways assessment is changing. [2021-01-19]. <https://teachonline.ca/tools-trends/ten-radical-ways-assessment-changing>.
- Emarge Ed Consultants, 2017. Impact of open textbook adoption at antigua state college. [2021-01-19].

- 19]. <http://oasis.col.org/handle/11599/2750>.
- FEHRLER S, MICHAELOWA K, WECHTLER A, 2009. The effectiveness of inputs in primary education: insights from recent student surveys for sub-saharan africa. *Journal of development studies*, 45(9): 1545–78.
- FOX R, 2004. SARS epidemic: teachers' experiences using ICTs. [2021–01–19]. <https://www.ascilite.org/conferences/perth04/procs/pdf/fox.pdf>.
- HATTIE J A C, 2003. 2003-Building teacher quality: what does the research tell us. [2021–01–19]. http://research.acer.edu.au/research_conference_2003/4/.
- HODGKINSON-WILLIAMS C A, TROTTER H, 2018. A social justice framework for understanding open educational resources and practices in the global south. [2021–01–19]. <https://jl4d.org/index.php/ejl4d/article/view/312>.
- IQBAL S A, AZEVEDO J P, GEVEN K, et al., 2020. We should avoid flattening the curve in education – possible scenarios for learning loss during the school lockdowns. [2021–01–19]. <https://blogs.worldbank.org/education/we-should-avoid-flattening-curve-education-possible-scenarios-learning-loss-during-school>.
- JOHNSON V A, RONAN K R, 2014. Classroom responses of New Zealand school teachers following the 2011 Christchurch earthquake. [2021–01–19]. https://www.researchgate.net/profile/Kevin_Ronan/publication/262484949_Classroom_responses_of_New_Zealand_school_teachers_following_the_2011_Christchurch_earthquake/links/556a546d08aecd77739ff97.pdf.
- KANWAR A, TAPLIN M, 2001. Brave new women of Asia: how distance learning changes their lives. [2021–01–19]. <http://oasis.col.org/handle/11599/37>.
- LAMBERT S R, 2018. Changing our (dis) course: a distinctive social justice aligned definition of open education. [2021–01–19]. <https://jl4d.org/index.php/ejl4d/article/view/290>.
- MAHAJAN S, 2020. Technological, social, pedagogical issues must be resolved for online teaching. [2021–01–19]. <https://indianexpress.com/article/opinion/columns/india-coronavirus-lockdown-online-education-learning-6383692/>.
- MEANS B, TOYAMA Y, MURPHY R, et al., 2013. The effectiveness of online and blended learning: a meta-analysis of the empirical literature. *Teachers college record*, 115(3): 1–47.
- MISHRA P, KOEHLER M J, 2006. Technological pedagogical content knowledge: a framework for teacher knowledge. *Teachers college record*, 108(6): 1017–1054.
- PERRY W, 1976. Open university: a personal account of the first vice-chancellor. [S.I.]: The Open

University Press.

PSACHAROPOULOS G, PATRINOS H, COLLIS V, et al., 2020. The COVID-19 cost of school closures.[2021-01-19]. <https://www.brookings.edu/blog/education-plus-development/2020/04/29/the-COVID-19-cost-of-school-closures/>.

RUSSELL T L, 1999. The no significant difference phenomenon: as reported in 355 research reports, summaries and papers. [S. l.]: [s. n.].

TAIT A, 2018. Education for development: from distance to open education. [2021-01-19]. <https://jl4d.org/index.php/ejl4d/article/view/294>.

THOMAS C J, 2020. Coronavirus and challenging times for education in developing countries. [2021-01-19]. <https://www.brookings.edu/blog/education-plus-development/2020/04/13/coronavirus-and-challenging-times-for-education-in-developing-countries/>.

UNESCO, 2016. Learning for all: guidelines on the inclusion of learners with disabilities in open and distance learning.[2021-01-19]. <https://unesdoc.unesco.org/ark:/48223/pf0000244355>.

United Nations, 2020. Policy brief: the impact of COVID-19 on children. [2021-01-19]. https://unsdg.un.org/sites/default/files/2020-04/160420_COVID_Children_Policy_Brief.pdf.

World Bank, 2018. Learning: to realize education's promise. [S. l.]: [s. n.].

Acknowledgements

This is a revised version of a report submitted to Commonwealth Education Ministers prepared by the two authors.



Mandla Stanley Makhanya

...while this current context is undoubtedly challenging, it presents the University with a golden opportunity to reset our compass, update our business and pedagogical models and rediscover our true mandate as an ODeL institution on the one hand, while establishing itself nationally, continentally and globally, as the most successful quality ODeL provider in the world, on the other.

Prof. Mandla Stanley Makhanya was appointed Vice-Chancellor of the University of South Africa in 2011 and is a prominent proponent of higher education leadership and advocacy. He currently serves as the President of the Higher Education Teaching and Learning Association (HETL), a Deputy Chairperson of the South African National Commission for UNESCO and Chairperson of the Culture Sector of the South African National Commission for UNESCO. Prof. Makhanya is past President of the International Council for Distance Education (ICDE) and is also Treasurer of the African Council for Distance Education (ACDE).



University of South Africa
<https://www.unisa.ac.za/sites/corporate/default>

ODeL in Transition: Reorienting, Reprioritising and Restrategising in a Time of COVID-19

Mandla Stanley Makhanya, former Vice Chancellor of UNISA^①

1. Introduction

The COVID-19 pandemic came as a global curveball: an unanticipated agent of death, disruption and collapse. It is proving to be an indiscriminate leveller, scything its way through the *haves* and the *have-nots* alike, with massive infection rates and high numbers of casualties over very short periods of time. Second and possibly, third waves of the virus suggest that our travails are far from over. Globally, health services are overburdened, infrastructure is groaning under the demands being placed on it and businesses, economies and livelihoods are being destroyed. The very real possibility of a global depression is looming.

Perhaps the most frightening thing about this mutating virus, is its current mystery and unpredictability. We are learning about it in “real time”, making slow headway against a common enemy. Our advances in Science, Engineering and Technology are being harnessed collaboratively in pursuit of a vaccine, and various forms of collaboration between nations and our scientific communities are at an all-time high. We are learning hard and valuable lessons in, and about, humanity and our vulnerability and resilience (or lack thereof) in a time of historically unprecedented global wellbeing.

South Africa has its own COVID-19 story to tell. On Thursday, March 5, the National Institute for Communicable Diseases (NICD) confirmed that a suspected case of COVID-19 had tested positive

^① When the book was published, prof. Mandla Stanley Makhanya had retired as Vice Chancellor of UNISA.

in South Africa. On 15 March, just 10 days later, a National State of Disaster was declared in terms of the Disaster Management Act by Co-operative Governance and Traditional Affairs Minister Nkosazana Dlamini-Zuma and announced by President Cyril Ramaphosa. On 16 March, Cabinet Ministers gave more details on the national action plan, and the National Command Centre was established to coordinate such action. On 17 March, the National Command Centre had its first meeting. On 18 March, President Ramaphosa and leaders of political parties met at Parliament to get consensus on the plan. All 14 political parties gave it their blessing. Also discussed was the imposition of a State of Emergency/Disaster to provide for the necessary circumvention of legal decisions (for example, around procurement) and to authorise the management of the movement and certain actions of conduct of citizens, by the policy and military services. The entire country united against this national threat. South Africa was placed under one of the strictest lockdowns of all nations, a move, though hard and detrimental to the economy, has been widely lauded as wise and timely and which (it is suggested), has contributed to ensuring a comparatively lower mortality rate amongst South Africans thus far. In the ensuing months the lockdown has been lifted gradually to its current level, level 1, which provides some semblance of normality, yet with a number of restrictions still in place to ensure health safety and to mitigate the possibility of the dreaded “second wave” that is being experienced in so many other countries. The State of Disaster continues to be extended, ostensibly as a precaution measure.

2. The Higher Education Context

The pandemic has in fact exacerbated an already precarious higher education environment which has mirrored increasingly unstable global socio-economic and political relations and resulted in increasing fragmentation and in some instances, geographically shaped insularity. Some of the trends that are driving this higher education transformation, for better or for worse, include the following:

- rapid technological and digital innovation and advancement that is revolutionising global society and exacerbating social-economic divides amongst and within nations and societies;
- changing global population demographics with Africa leading the numbers in terms of youthful citizens;

- growing concerns around the sustainability of the planet;
- a co-dependent, yet conflicted and deeply unequal world;
- a complex, growing array of higher education stakeholders and role players who are reshaping our understanding and practice of education in fundamental ways, often via digital instruments, platforms products and communication.

The pandemic had an immediate, hugely disruptive effect on higher education, which generally enjoys a symbiotic transformational relationship with the State, broader society and global peers. The announcement of *lockdowns* plunged education systems and the higher education sector world-wide, into disarray. As pre-schools, schools and universities were closed, parents and families were simultaneously told to go home, stay indoors and teach their own children (and others, for the teaching professions) from home in collaboration with their children's schools and teachers. Face -to-face education has grounded to a halt as schools and universities figured out how to protect and best serve their learners and staff, and most importantly, how to ensure that a school year would not be lost or forfeited.

The idea of educating remotely or online (dubbed *emergency remote learning* by many) was immediately seized upon as the only viable option to continue education, and there was a global scramble to try and put courses online and to teach synchronously and remotely. Very swiftly the realisation dawned: you cannot simply upload courses designed for face-to-face tuition and expect both staff and student adapt successfully. Teaching staff were placed under severe pressure as they adjusted in real time, to teaching via Zoom or other such platforms while their partners and children were in the same home and in many cases, the same space. Those issues with which traditional Distance Education (DE) staff and students have always grappled soon made themselves apparent. Despite initial convictions that carrying on with the academic project would merely be a matter of moving everything “online”, it soon became evident that face-to-face universities and their staff, students and parent communities, are generally ill equipped both in terms of experience and finance and importantly, desire, to make this move successfully at this juncture. It was apparent that many people did not like, or want, online education and that the perception of online education as “inferior” to face-to-face, continues unabated.

In South Africa, higher education institutions incurred significant unbudgeted expenses as students were sent home, buildings were decontaminated and sanitised. Finally, as the first cases of infection amongst staff and students were recorded, all non-essential staff were also sent home and told to work remotely where possible. It became apparent that all of the socio-economic challenges identified globally are amplified in South Africa (and other poorer nations), given the massive social disparities that exist.

As we approach the end of 2020, the sector is still trying to mitigate the impact of the pandemic on our institutions and the academic year, while carrying on some semblance of effective teaching and preparing for the next academic year. Staff and students have slowly begun returning to their institutions, but as has been the case across the globe, many students have not returned, having deemed 2020 to be a wasted year, or being too constrained financially, to be able to continue. Depending on their commencement dates, many countries are experiencing cancellations and reduced enrolments rates, both in regard to their own and foreign students as parents and students eschew distance learning as a preferred instruction model and as fears for the health and safety of both staff and children continue in the context of second waves of the virus which appear to be targeting younger people as well.

In South Africa, officially, the agreement is that the year should not “be lost”. The Department of Basic Education (DBE) and the Department of Higher Education and Training (DHET) are resolved that this should not happen. To this end, the Ministry of Higher Education, Science and Innovation engaged in scenario planning to determine the most viable way forward, while Universities South Africa (USaF) was similarly engaged to find the best way forward for the university sector. The outcome of these engagements was that the academic year would be extended into early 2021, to offer higher education institutions some time to finalise the 2020 academic year and to prepare for the 2021 student intake. The success of these decisions has yet to be analysed fully, but the academic year has continued for the most part.

When considering the impact of COVID-19 on South African universities, it is important to consider the impact on student numbers and success, as this will ultimately affect future funding. Historically, when the economy is down, university student numbers increase because students

of all ages tend to upskill and reskill themselves for future work, but this is no longer predictable with any kind of certainty in this time of COVID-19. Thus, because of the high levels of unemployment in the country, including the unprecedented level of unemployment among the students of the University of South Africa (UNISA), there is much uncertainty about the impact on UNISA's future enrolments. The desire to improve themselves for a better future will remain, but the effect of affordability of studies and uncertainty around the manifestation of the virus and timelines around the availability of an effective vaccine, may well counter that.

The increased need for improvement may indeed lead to an increase in first-time entering students, or, at least in applications. However, the increased pressure of affordability is already evident in the high proportion of students making use of state funding to finance their studies, and this is likely to increase as well, albeit in an environment of decreased subsidies from the state. The numbers of students who do not qualify for state funding, but who are still not able to pay for their own studies, the so-called “missing middle students” students, will also most likely grow. All of these factors might realise a decline and an impact negatively on enrolments.

The financial constraints resulting from the dire economic situation in the private sector in particular, is also likely to influence the ability of this sector to contribute financially to the studies of their staff members. The decline in 2020 of postgraduate research enrolments, which were due to be completed during the lockdown period, will also impact negatively on the subsidy income in 2022. Financial pressure is also likely to impact negatively on course dropouts and even qualification dropouts. A decline in success rates (normal pass rate and degree-credit success rates) and throughput rates may therefore be realised.

3. The University of South Africa's Response

Yet again, UNISA finds itself in a unique position. UNISA is a legislated and mandated dedicated, comprehensive Open, Distance and e-Learning (ODeL) provider, the only one of its type in South Africa and the continent that offers quality assured and accredited qualifications. This means that for UNISA, when it comes to our core mandate of Teaching and Learning, Research and Innovation,

and Community Engagement, in the current COVID-19 circumstance it should be *business as usual*. UNISA is ostensibly in an advantageous position and this advantage should be leveraged to our own benefit and to the benefit of the higher education sector. UNISA's core business should, in fact, only be impacted by our financial challenges and our openness to relinquishing notions that may have led us away from our typology (for example, providing costly face-to-face education for a small minority of UNISA students). This disruptive phase in UNISA's history is thus presenting a test for our current trajectory, our business and pedagogical models and our preparedness and determination to move more concertedly online, while ensuring that the quality of our offerings and the student experience, remains excellent. It will also be a test for our staff to adapt in real time to become more engaged with our students via a variety of channels, and for our students to move more swiftly and directly into the online learning mode of education.

Thus, while this current context is undoubtedly challenging, it presents the University with a golden opportunity to reset our compass, update our business and pedagogical models and rediscover our true mandate as an ODeL institution on the one hand, while establishing itself nationally, continentally and globally, as the most successful quality ODeL provider in the world, on the other. In turn, our students will be required to become the proactive and disciplined students and scholars that have been a hallmark of this University and its graduates for over 150 years; characteristics that have made them sought-after employees and excellent leaders and entrepreneurs across the world. To assist our students, staff will also have to become more dedicated, self-sufficient and creative, as together with their students, they move into a different way of thinking and doing.

While UNISA is in the very fortunate position of already being "online" to a significant extent,, the COVID-19 pandemic has impelled us into serious introspection as to how we are going to mitigate the risks and challenges that are being revealed as it unfolds, and in the process, ensure that we continue with our mandated responsibility, with excellence and speed. UNISA recognised a rare window of opportunity to take that metaphorical "leap" across the digital divides that currently impede our progress and our agility as a 21 century university, and to embrace the COVID-19 disruption as an opportunity for much need accelerated transformation. We are of the firm belief that it can, and must, be done.

To this end, and within a very short period of time, as an initial response to the pandemic and in line with the intention stated above, UNISA's executives were all tasked to conduct SWOT analyses in their respective portfolios to determine their current status, highlight their challenges/threats, identify their opportunities, and indicate what changes need to be made to arrive at the desired end state for effective fully online learning within the shortest possible period of time. All portfolio heads were tasked to share with the University Council what measures had already been put in place, or would soon be, to mitigate immediate challenges. These were workshopped at a special workshop shortly after the announcement of the lockdown, and are summarised per portfolio, below.

3.1 Portfolio: Teaching, Learning, Community Engagement and Student Support

There was consensus in the portfolio that the academic year would not be forfeited and that the academic project would continue, using all distance methods including: formative assessments with online submission; online student support; students would use e-resources and the library; all assignments would be submitted, received and marked online and all staff trained to perform these functions; videos would compensate for face-to-face sessions; all examinations would be online with the use of proctoring; all meetings would move to Microsoft Teams; VPN access would be provided for all staff; and a paperless culture for signing documents for HR and Finance online would be adopted.

A positive outcome of this move was noted in significant savings in regard to booking of venues and catering for meetings, seminars, and other similar institutional functions (including graduations), which are now all done on Microsoft Teams. Travel costs have been virtually eliminated as the majority of staff continue to work from home and conferences have been offered via Zoom and other such platforms across the globe.

There have, however, been some challenges in both the academic and administrative/support domains. A number of administrative staff have found that their jobs have become "redundant" overnight (for example, staff tasked with the receipt and distribution of the millions of

assignments that UNISA receives each year). Staff members who only work in laboratories are also unable to work from home. These staff are not working at present and will be reskilled in line with the requirements for fully online education to ensure their continued employability and in line with a human resource assessment of institutional HR capacity or they will return to their offices once it is safe for them to do so (laboratory staff). Furthermore, not all staff requiring laptop facilities and/or Internet have these facilities to carry out off-campus work. Not all students have devices and/or connectivity. These two inhibitors are evident in all portfolios and amongst the entire student body, and are the most critical challenges to be overcome over the short term.

To mitigate these specific challenges over the short term, VPN access for all staff has been prioritised, and data challenges have been addressed, in part, by providing 30gigs of free data per month to both staff and students who don't have their own Wi-Fi or fibre packages at home. The University also continues with its initiative to provide, where possible, appropriate devices for staff and students to be able to work from home. This is an urgent, ongoing priority.

Communication between staff, the University and with students is also being revisited. The staff is continuing and strengthening their online presence, learning new ICT skills and growing online profiles. Many have set up WhatsApp groups and are showing improved levels of teamwork and collegiality as they are obliged to collaborate more regularly and effectively to achieve their objectives and goals.

In regard to the submission of assignments, students requested, and were given, alternative forms of assessment and extension of assignment submission dates, in the immediate wake of the pandemic, so as to ensure the continuity of the academic year. That said, all students were nevertheless required to submit all assignments online, without exception. Various means of doing so were communicated to students and an App was designed that would allow them to scan and upload their assignments with minimum difficulty, on their mobile phones. A similar App was used for the downloading of examination papers and their subsequent uploading within a given period of time after completion in the execution of online examinations. The next phase of online examinations will be fully proctored. The move to fully online examinations has in fact been one of the successful stories on the response to the COVID-19 epidemic and is widely regarded as

an exceptional feat that was accomplished in real time, without any piloting and yet with high levels of success. Much of this success can be ascribed to a committed and supportive staff, and to students who exhibited the necessary courage to move with little prior notice into new ways of taking their examinations.

On a positive note, the challenges presented by moving into fully online examinations has galvanised many academics into creative action and given them a much needed “shot-in-the-arm” in regard to their academic practice. One discerns renewed excitement around the challenges presented and the ingenuity required to resolve them.

In their own discussions the academics identified various challenges related to alternative assessment for summative purposes, such as: the readiness of ICT infrastructurally to accommodate large volumes of online assessments; possibilities and impact of the disruption in electricity supply (especially in winter months); appropriate devices for staff and students; connectivity challenges for staff and students; lack of adequate data for staff and students; and the integrity and authenticity of the examination process. The following points were raised for immediate attention and consideration:

- Academic working hours in a time of 24/7 availability. It was proposed that a shift schedule (day and evening) for academics could be considered, that would support students, be supported in turn by the administrative and support department and ensure some semblance of normal home and family life. To this end a realistic work model should be developed for academics given their heavy workloads and should incorporate a monitoring tool.
- myUnisa (the online student platform) must be able to provide reports on the engagements between students and lecturers;
- the supervision of many students by a certain number of lecturers should incorporate the required ratio of tutors.

3.2 Portfolio: Research, Postgraduate Studies, Innovation and Commercialisation

Possibly one of the most exciting outcomes of the impact of the COVID-19 disruption has been

a renewed focus on scientific research, and increasingly as the pandemic unfolds, research in the human and social sciences. In the immediate wake of the pandemic the following aspects were identified as influencing factors on research:

- the funding mix was changing and public funders would have less influence over research priorities;
- the research agenda was changing to evidence an increased focus on making research accessible and more collaborative;
- research grants would increasingly have open science conditions attached;
- researchers were expected to spearhead the adoption of open science, but this would inevitably present conflicts of interest;
- metrics would continue to expand, enabled by new technology;
- new technologies were expected to transform the researcher workflow over the coming ten years;
- behaviours and skillsets would change as a new generation of researchers emerged;
- collaboration would drive research forward;
- big data was fast becoming the lifeblood of nearly all research;
- Artificial Intelligence (AI) and machine-learning tools were changing the shape of science;
- Blockchain had the potential to facilitate open science, but the technology was still in its infancy and may not fulfil its promise;
- Augmented Reality (AR) and Virtual Reality (VR) would become key learning tools for several institutes ;
- the role of the journal was transforming to meet modern needs and the article structure was evolving and new forms would become the norm;
- the measurement system would become even more critical;
- courses would diversify from a lecture-focused model;
- higher education institutions were changing their structure;
- EdTech would become a serious higher education contender.

It was felt that virtual supervision should be implemented as soon as possible and that while the University was in a state of disruption, it should nevertheless ensure that it met its social justice

responsibility and accountability by striking a balance between addressing research and the social needs of communities.

At a meta level there was the exciting realisation that the challenges posed by the scientific management of the virus itself, had affirmed the value and importance of scientific scholarship and research, and stimulated global interest in a variety of scientific disciplines, including for example, epidemiology, virology, immunology, data analytics, data science, biology, bioinformatics, and animal and plant genetics. An appreciation of the importance and value of collaboration between institutions and public and private entities at national, regional, continental, and global levels, has also brought home the collective need of humankind to work together in the interests of its own survival and flourishing.

At a time when the human and social sciences have been under sustained pressure and in the current technologically driven global context, deemed to be “lesser” academic disciplines, one has noted a distinct upsurge in the appreciation of for example, psychologists, psychiatrists, social workers, teachers, religious leaders, town planners, health care workers (including counsellors), farmers, police, to name but a few. The sustained lockdowns across the world have begun taking their toll physically and mentally on our populations and testing our resilience in the face of adversity. Bereavement, isolation, sustained close proximity of family units, job losses, business closures and so on, have revealed serious cracks in our societies. Divorce rates have skyrocketed, as have suicide rates (including amongst children), physical abuse (especially of the more vulnerable women and children), mental illness and a host of other afflictions cannot be remedied by science or scientific disciplines alone, but require what is increasingly called “essential human work/intervention”.

It is therefore reasonable to assume that we will see an upsurge in enrolments in both the hard sciences and in the human and social sciences as their respective value to society is reasserted and reaffirmed through the COVID-19 pandemic. This bodes well for the future of scholarship, including research, and our universities would do well to leverage this opportunity to their benefit in this time of disruption and uncertainty.

3.2.1 The Registrar and Deputy Registrar Portfolios and Directorates

UNISA currently enrolls more than 380,000 students which represents more than one-third of all higher education enrolments in South Africa. UNISA's student population is mostly from disadvantaged backgrounds both in terms of resources as well as schooling. The student population profile indicates that more than 90% of the students are South African, more than 70% are Black, the majority are female and most speak the indigenous languages of South Africa. At the advent of the COVID-19 disruption, 80% of all registrations were done through web based online registrations. The rest of our students registered via the walk-in process. Furthermore, at time of writing 147,000 of the 384,000 (38.28%) students are NSFAS (National Student Financial Aid Scheme) funded students who receive Learning Material Allowances (LMAs) and teaching aid allowances. This is a clear indication that a significant percentage of our students cannot afford to pay for university education and therefore cannot on their own, afford student laptop devices, e-books or data. However, out of the 147,000 NSFAS students it can be assumed that a significant number of students had access the web based online platforms.

UNISA's ICT platform is able to process successfully, 300,000 assignments on one day and this provides evidence of UNISA's ability and ICT technology and expertise (with some improvements) to support going fully online with our assessments. The portfolio also committed to assist students to benefit fully from the advantages of online education while exploring way to fully automate all departments over the short term. The current willingness of the CEO of NSFAS (the national bursary scheme), to allow universities to use the parts of the students NSFAS allowance (the LMA) to make learning devices and data available to NSFAS funded students, and therefore online education possible for all students, is deemed to be a positive move in the right direction. The portfolio has also put in place a task team to develop a business case for the provision of student learning devices and data as a necessary step to fully online provision.

In the immediate wake of the lockdown announcement, the Registrar's portfolio agreed that applications and registrations will be fully online by June 2020; all assessments, both formative and summative assessment would be non-venue based; admin processes and decision making should be less dependent on human resources and move to full automation and importantly, that Committee Services would move swiftly into virtual meetings using Microsoft Teams, while the

advantages of using BOARD Papers, BOARD Maps or Diligent would be explored as options that could assist in providing a more secure platform.

Common and current critical challenges in both portfolios included a lack of resources for online delivery, including laptops and connectivity and data for both staff and students; the need to finalise a human resources structure; the revisiting of the infrastructure in regions and the finalisation of a regional model to accommodate the disruptions and to ensure appropriate service delivery into the future. It was agreed that automation of activities across the Directorate was key to its success, from applications, registrations, submission of assignments and finally, exams. The only physical contact with students should be during graduations where these were not held remotely. A positive spinoff from the move online would be the reduction of costs relating to the hiring of examination venues and facilities which could be achieved through the finalisation of a new assessment model.

UNISA's Directorate: Student Admissions and Registrations (DSAR) has managed the 2020 enrolment targets within the 2/5% deviation—almost 400,000. Currently applications are all submitted online with about 70% processed systemically. Registrations processing is almost 90% automated, with approximately 85%–90% submitted online and processed in real time. Students may also do online “self-help” for: changing biographical details (in real time); requesting and receiving academic records (real time); adding or cancelling modules (processed in real time); requesting exemptions; applying/appealing for readmission; applying for final 2 modules concession. There are currently more than thirty staff dealing with electronic enquiries effectively, and approximately 45,000 audited records of students completing qualifications are processed automatically. Over and above the general challenges of devices and data provision, this directorate also raised the need to address the HR structures, and to ensure the more effective operation of the interdependencies between all of the directorates in the Registrar's Portfolio.

In order to ensure the effective and smooth move into fully online operations there was a call for a comprehensive document business rules to ensure further online enhancements, more specifically: further automation of application processing; automated final verification process; online academic referral for admissions and exemptions; real time application reports for DSAR

processes. It was felt that these would enable real-time online applications and registrations and address effective turnaround time, thus meeting due dates timeously. It was also felt that a year model, rather than the shortened semester system would address all current challenges within the institution.

It was also felt that successful engagement had to be conducted with the Student Representative Council (SRC) regarding the way forward in regard to recognition of their structures and elections and that this could be done via telephonic meetings with SRC leadership and with colleagues.

3.2.2 UNISA's Regional Scenario

Given the key role that the regions play in UNISA's service to its students it was felt that UNISA's COVID-19 stance and logistics should be fully communicated to both staff and students. In mitigating the impact in the regions the sentiment was that: face-to-face (F2F) tutors and facilitators should be given support (data or re-imbursement) to be able to provide online support to students during lockdowns and shutdowns by strikes via various Apps (e.g., Zoom, WhatsApp, Teams etc.); staff should be provided with laptops; that there should be vigorous training/awareness campaigns for students on use myUnisa for administration usage (all registration related matters), as well as library training, digital literacy training, and study skills workshops. Furthermore, regions should promote partnerships and plan around existing partners for improved efficiencies.

Many of these suggestions and challenges were consonant with the other institutional portfolios and were given consideration accordingly.

UNISA's Advocacy and Resource Centre for Students with Disabilities (ARCSWD)

It remained difficult to communicate to staff in this directorate. While all staff have laptops, the issue of connectivity remains a challenge. The delivery of assistive devices to students was interrupted by lockdown but the intention was to have the assistive devices delivered to students by end of March 2020. Prescribed books would be sent by email and a survey would be conducted to assess the impact of learning through the assistive devices. The results would determine if the University should consider piloting online services for students with disabilities.

Graduations

Graduations remain an institutional highlight and a very special occasion for UNISA students and their families. It is a time of joyous celebration, African style, and not to be missed. UNISA graduates more than 47,000 students during its spring and autumn graduations each year, and it was therefore a grievous blow for our students to have their graduations cancelled during the 2020 graduation cycle.

With the advent of the lockdown, all autumn graduations were cancelled and arrangements were made to ensure students receive their certificates safely. It was, however, explained that graduates would be given the opportunity to experience their graduation in person should social distancing allow it in the foreseeable future. Over and above the health risks posed by physical graduations, the physical infrastructure, resources and logistics became impossible due to the restrictions on business, of the lockdown. UNISA, along with all universities impacted by COVID-19 was therefore obliged to cancel graduations, make provision for the delivery of letters of completion and graduation certificates and in many cases, offer virtual graduations.

Committee Services

The Secretariat/Committee Services provides a vital service to the University community and its statutory committees such as Council, Senate and executive management. As such it is at the front line of any institutional disruption or transformation. In the context of the COVID-19 lockdown and UNISA's strategic commitment to move fully online, the following challenges were identified for immediate attention:

- Committee officers would need more training in arranging electronic meetings and airtime should be considered a core resource required to perform duties in this area. On a positive note, since electronic meetings would mean that costs relating to organising physical meetings (e.g. catering costs and arranging transportation for some members) would reduce, such costs could be channelled towards providing more data and airtime to support the work of Committee officers and other staff in the division.
- Data support would also have to be provided to Council members.
- The most secure and permanent solution with regard to conducting meetings electronically had to be established and implemented, given the confidentiality of their proceedings and

documentation. A complete board portal solution (e.g. BoardPapers, BoardMaps or Diligent) would likely be the best solution, as this offers a complete secure platform ensuring greater meeting governance assurance, eliminating leakages and loss of documents, ensuring an audit trail of activities, providing a secure voting platform, a user directory, electronic signing of minutes, and greater accessibility (both online and offline).

- A more comprehensive institution-wide digital solution would clearly be needed to transition the workforce into the digital environment.

Since then it has been remarkable to note the speed at which these staff has taken up the challenge of delivering on its mandate, so much so that meetings, including mass meetings that form part of the institution's calendar are now routinely held without incident, online.

3.3 Portfolio: Institutional Development

At UNISA the Portfolio of Institutional Development comprises Human Resources, Organisational Transformation, Communication, Marketing and Liaison and Fundraising. As an immediate response to the lockdown it was felt that the Departments Human Resources and Institutional Advancement could be automated, and technology could be used to ensure that the same services could be provided and that all activities would be able to continue. The Directorate: Organisation Development felt that the verification of job descriptions and submission of OD reports and other work documents required meetings with stakeholders and presenting workshops, but these too could be automated, done on Microsoft Teams and electronic signatures could be used. The process of mapping UNISA's human resource capacity in line with the requirements for fully online provision is a complex task that will involve a number of stakeholders. As such it would be addressed urgently, but with sensitivity. In regard to Wellness, Sport and Recreation it was felt that the work of wellness was contact based. Telephone lines had been diverted to private cell-phones to provide a service and all the processes for job descriptions and job evaluations had been automated. Sport and recreation issues were obliged to conform with lockdown measures.

In general, the work of HR should be able to continue smoothly. One Drive and Teams could be used to share documents. Teams could be used for meetings, interviews and shortlisting. Oracle

was easily accessed via VPN and was currently not affected. Access to the student system required intervention by ICT to ensure that access was secure, and ICT would investigate bringing in an e-tender portal onto Oracle. It was one of the modules under ERP, but a short-term solution could probably be found. Use of APN (Access Point Name) was hugely dependent on the infrastructure and the cloud. It would not be immediate and would probably only be implemented in 2021.

3.4 Portfolio: Information and Communication Technology

The advent of COVID-19 and the ensuing lockdown and decision to move UNISA fully online, thrust the portfolio information and communication technology (ICT) into the limelight. Already a core function of ODeL, ICT would determine whether or not UNISA could continue with the academic year and if so, how successfully this could be done. In regard to the Business Continuity Interventions, ICT adopted a three-fold approach which focused on staff, teaching and learning and support.

3.4.1 Staff

Staff working from home needed devices as tools to connect to UNISA network outside of campus and to have access to systems and be able to collaborate with each other.

Devices

Most of UNISA staff have desktops (not laptops), which created a challenge in regard to working from home. UNISA immediately rented over a thousand laptops for a period of 3 months which were delivered at staff members' homes during this lockdown period. Priority was given to ICT staff, Call Centre (SCSC), Finance, and DSAR. With the project of Device as a Service, this challenge will be eliminated completely as all UNISA staff members will be issued a laptop as a tool of trade to allow mobility and ability to work from anywhere.

Connectivity and Access to Systems

Most of UNISA applications are on the cloud or web based which make it easy for them to be accessed from any device anywhere. We, however, have the student system which can only be accessed through a UNISA configure device. Affected staff members are in Finance and in DSAR.

For this group of staff we have setup these devices at ICT and issued them in the first batch of delivery.

To access systems such as UNISA's Intranet and Oracle, a staff member is required to connect to the network via a Virtual Private Network (VPN). The license for VPN was subsequently increased from 400 connections at a time to unlimited. This means there can be an unlimited number of people connected via the VPN at any point in time.

Data for these connections was a challenge for all staff working from home. To assist with that, UNISA's ICT activated reverse billing for the VPN through MTN and Telkom. This kind of connection requires some data from the staff member to be able to connect to the VPN, but once connected, the staff will not be consuming further data. The data challenge will be eliminated completely in the future when an Access Point Name (APN) which connects a user directly with no data consumption from the staff member has been activated in the University.

Support/Collaboration

UNISA has Microsoft Teams as a collaboration tool for meetings, chats, calls and documents sharing. This has proven useful during the lockdown, and there has been a very significant increase in usage of the whole Microsoft Office 365 stack. ICT also engaged Telkom for a conversion of the current telephone system from landline to Teams soft calling. The project has commenced and once fully implemented it will realise the following benefits:

- Ability to make and receive calls anywhere, even overseas without roaming;
- A saving of over R600,000 a month from handsets rentals;
- A sizable saving from not making landline calls anymore.

3.4.2 Teaching and Learning

myUnisa is UNISA's "classroom" and it continued to be fully operational for teaching and learning to continue uninterrupted by the lockdown. Shortly after the lockdown ICT had already handled 500,000 connections. These include students, lectures and other staff members supporting the Teaching and Learning portfolio. Online assessments were and remain fully operational for submission of assignments and portfolios. UNISA processed over 1.3 million submissions in

the month of March alone. It was recommended that online submission be encouraged for a full usage of this facility. It was also agreed that UNISA would move to online examinations as soon as it was immediately possible but with the aim of moving fully online for the entire University in the second examination period.

3.4.3 Support

A Virtual ICT help-desk was set up to assist staff with any challenges they would face during the lockdown. A total of 1,827 requests had been received by April and this number was expected to increase as the staff laptop rollout was implemented. A Virtual Call Centre (SCSC) was also set-up and is operational. Reports will be produced as these initiatives are monitored.

3.5 Finance and Business Enterprise

3.5.1 Online Maturity Assessment

This portfolio proposed establishing the institutional maturity of UNISA in relation to the online learning space. Online learning requires a different mix of financial, HR and teaching resources in relation to a contact-university. Such an online maturity assessment would enable UNISA to determine its status in relation to its peers (locally and internationally) and should focus on the entire value chain and its resource components (HR, ICT, Finance, Estates). The maturity assessment should also provide a list of “low hanging fruit” that are easily achievable and yield positive results towards online learning.

3.5.2 Institutional Typology

It was felt that UNISA had in the past attempted to, in many respects, emulate full-time universities by providing physical learning spaces and face-to-face tutoring, by way of example. This had cost the institution a lot of resources, and lost a lot of time. Had UNISA remained true to its mandate of “distance” in the ODeL space, it would have been far ahead of its peers at this time. The UNISA business model, teaching and learning model, regional model and support models therefore needed to be reassessed in the context of online learning, and this in turn would impact the UNISA strategy, and given the current review of the strategy, this may be an opportune time to incorporate these enhancements therein.

3.5.3 Enrolment, Registration and Assessment

When it comes to enrolments the portfolio of the CFO felt that, 2021 may pose a challenge in regard to: the inability to pay fees for self-paying students, which may impact the bad debt provisions negatively and may hamper payment of existing debt; a possible cap on NSFAS student numbers as this cohort of students rely on government to fund them; uncertainty around the enrolments of school leavers. It would therefore make sense to look at other sources of students to enter UNISA. In addition, core targets that drive revenue need to be monitored to ensure that revenue flows into the University, including student enrolment, module enrolment, throughput impact. To that end the following opportunities exist for enrolment and registration:

- UNISA's student base should go beyond those that we have fared well in, like NSFAS funded students, matriculants, returning students and employed students and include students that were turned away from prior registrations, international students, and enrolments in Short Learning Programmes (SLP's).
- The decline in SLP's is a trend that is prevalent in 2020. UNISA should reconfigure its SLP offerings and look at shorter, more affordable courses (like 1-month courses) in the current economic context.
- The assessment process should be configured in such a way that assessment timelines are not deferred. Assessment is the trigger for throughput, and if these timelines are moved, government funding related to throughput will be impacted.

3.5.4 Revenue Sources

Revenue from bursaries may be impacted by the economic downturn. Contributions from UNISA Foundation to the overall revenue base, may therefore decline. There would have to be an increase in third stream income, including from UNISA enterprise, and this may require the setting of hard target on independent revenue with concomitant accountability.

3.5.5 Expenditure Management

It was felt that during the transition, the nature of UNISA's expenditure would change and that there would have to be trade-offs between new costs and those that are not crucial in this time of disruption. Fixed cost related to employee expenditure was deemed to be a challenge, as these costs are incurred regardless of service delivery. It was further felt that there was a need

to reassesses costs related to physical infrastructure investments, face-to-face tutoring and study materials, particularly in light of the intention to move fully online.

3.5.6 Resource Implications

Traditional resource allocations are no longer holding true in the current COVID-19 environment and the mix of resources, including man (people), money (financial resources) and machine (ICT and physical infrastructure) will differ. Furthermore, people need to be able to work under flexible work environments and to be trustworthy in this environment of outputs (rather than time management). UNISA must therefore build skills in managing in a decentralised and online environment. The ability to work from home should be coined as a benefit and used to market opportunities at UNISA. More flexible employment practices could transition employee from being fixed, to more variable.

Sources of income may change dramatically in the new context. Recovery of poor investment performance should be managed with clear long-term horizons. Financial resources would have to be deployed to areas of priority and those that position UNISA in the online space. Alignment between ICT investment and infrastructure investment must be agreed on and the traditional physical footprint approach needs to be evolved into a digital footprint. Key interdependencies to achieve these include an integrated ICT; quality connectivity and network speed; easy to use tools for online operations; non-physical validation and audit trails and clear performance management and remuneration policies for a new way of work.

3.6 Portfolio: Operations and Facilities

UNISA's response to the COVID-19 lockdown is immediate and swift, aligned to and compliant with government and sectorial regulations and focused on ensuring the safety and security of staff through measures that have been replicated across the globe and which have been well reported. The measures have proven to be effective in that while most have had to work from home, business has been able to continue. Essential works have been well protected, managed and monitored.

3.7 Portfolio: Strategy Risk and Advisory Services

Risk and advisory services play an important role in ensuring that while UNISA is obliged to respond and implement measures in a State of Disaster, it nevertheless practices sound and transparent governance and ensures that the best interest of the University and its staff and students are served at all times. To this end, the following aspects were highlighted in this portfolio.

- The development of a dashboard for risk and compliance reporting for the use of risk owners.
- The use of the iContract and the progress of contracts on the system were being investigated in line with institutional due diligence processes and staffing. The Outlook facility could be used to track progress.
- Court appearances could be done on Teams, but a resolution would need to be found for dealing with individual cases in the short term.
- Quality Assurance could be done on Teams, including external reviews once some adjustments had been put in place.
- The transition from desktops to laptops was a key issue to be addressed.
- The portfolio had been working on Power Bi which could provide updates on COVID-19, applications, registrations, formal and non-formal students, graduations and so forth with comparisons to previous years. It further provided institutional analysis with the different groupings of students, such as home language, race, gender, study fields, age group, employment status, student exam sittings, number of exams written, student performance per module, number of graduates, including on other countries. A student tracker was being developed. Once the tool was fully implemented, additional information required could be added.

3.8 Summary

The above information indicates quite clearly that UNISA, within the very short period of a few weeks, was able to make key strategic decisions so as to enable the institution to accelerate its move into fully online delivery. It is quite remarkable that the University has been able to leverage on existing infrastructure and access new requirements so swiftly to accommodate the immediate

needs of both staff and students. This has resulted in UNISA saving the academic year, conducting a comprehensive SWOT analysis and charting the way forward from an informed perspective and with a nuanced appreciation of the work that needs to be done to ensure UNISA's brand, relevance, sustainability and value.

Nevertheless the following matters needed to be attended to/implemented in order to achieve the stated strategic objectives:

- Determining required skills of staff. A skills audit would need to be conducted urgently.
- Working online would continue across portfolios.
- The generation of 3 stream income and external funding to support funding streams is critical.
- The issue of providing devices to students in collaboration with donors and funders is an immediate priority.
- The regions should start working online, following a similar process as The Directorates Student Assessment Administration and Student Registrations and Admissions.
- Issues around research performance should be addressed. Every academic should account for their research and output should be measures.
- Staff performance should be closely managed and monitored by line managers. The same would apply to the UNISA Enterprise and it should be ensured that entity delivered on its commitments, specifically with capital injection for the University.
- The challenge of the skilling and training of staff in operations/printing should be addressed in view of the intention to become a paperless institution.
- The Registrar should ensure that the process for assignments and the use of the jRouter was flawless. Students had already been informed that assignments should be submitted online, no study material would be delivered after 27 March and students should download their material. The communication had also explained how to use their cell phones to upload a written assignment.
- ICT would ensure that the tools that were required for the examinations were available and that regular backups and restore backups were made.
- Risk identification, assessment, monitoring and management would be prioritised.

4. Conclusion

UNISA has tackled the challenges posed by the COVID-19 pandemic with enthusiasm, commitment and innovation. Reports from the various portfolios demonstrate that a lot of thought has gone into mitigating actions and activities that will not only ensure the continuity of the academic project and the sustainability of the University, but which will also continue the brand and tradition of UNISA excellence.

The pandemic provides a unique moment in time to pause, reflect, refocus, reprioritise, reorient, do justice to our core mandate as an ODeL institution and especially to a continued quality student experience. Much work remains to be done in ensuring that our students are able to exercise the necessary autonomy and discipline in their studies that will now be required of them. Communication must play a key role in this process and an appropriate model will be devised to this end that may be adapted in line with the University's transformation trajectory. Communication remains a vital, ongoing process that is fundamental to achieving institutional objectives.

The tasks that lies ahead for UNISA as it continues in COVID-19 mode, is to ensure that the suggestions and recommendations that have been made are taken into consideration in a re-examination of the UNISA strategy over both the immediate and more medium term. UNISA will need to continually reassess and prioritise its strategic actions and its spending, bearing in mind the risks that have been identified and the regular contextual and financial assessments made by the Finance Department. This needs to be done bearing in mind the very real possibility of directives emanating from government and the Department of Higher Education, Science and Training (DHEST), which may have a bearing on the work that is planned going forward. It is critical therefore, that the University should monitor the impact of the pandemic on all of its operations on an ongoing basis, and ensure that it has the necessary built-in agility to make necessary changes/adaptations in good time, and in the best interest of the sustainability of the University.



Ryu Su Noh

As an open university fulfilling its social responsibilities, it will make endless efforts to support the lifelong learning of learners while responding to the educational needs influenced by changes in the society.

Prof. Ryu Su Noh received his PhD. in Agronomics at Chungnam National University Graduate School (1993). He has served as the President of Korea National Open University since 2018. He is a Professor in Agriculture, Korea National Open University since 1999. He was awarded Food, Agriculture, Forestry and Fisheries Science and Technology Awards, Grand Prize, and “Outstanding Research Awards” from the Ministry of Education.



Korea National Open University
<https://engknou.knou.ac.kr/sites/engknou/index.do?epTicket=LOG>

Best Practices of the Open Universities Worldwide: KNOU

Ryu Su Noh, President of Korea National Open University

1. History and Current Status of KNOU

1.1 Milestones and Organization

Korea National Open University (KNOU) is Korea's first national open university established as an affiliate of Seoul National University in 1972 as a result of Decree on the Establishment of Korea National Open University. In response to widespread public demand for university education in Korea, the purposes for establishing KNOU can be summarized as increasing opportunities for higher education, contributing to improving the level of national education, expansion and development of lifelong education for the growth and development of individuals, and training human resources in various fields in accordance with the needs of the nation (Lee Dong-joo et al., 2018). To accomplish these purposes, KNOU provides university-level curriculums by means of distance learning to those who have high school diplomas without having to take a separate university entrance examination.

Looking at the milestones of KNOU, the university was first founded as part of Seoul National University in 1972 but then separated to be a standalone organization in 1982. In 1991, the five-year program was reorganized into a four-year undergraduate program. KNOU TV (OUN) was launched in 1996, and then just three years later, in 1999, KNOU launched a dedicated satellite TV educational channel. Then in 2001, the graduate school was established with no fewer than four departments that offer a variety of master's degrees. Since 2012, KNOU has been operating undergraduate and graduate programs, notably the successful Graduate School of Business

Administration, and Prime College, which offers both degree and non-degree courses.

Looking at the University's organization in detail, the undergraduate school comprises four colleges, which are the College of Liberal Arts, the College of Social Sciences, the College of Natural Sciences, and the College of Educational Sciences. More specifically, there are 22 departments and one college. The graduate school has 19 departments, and the Graduate School of Business Administration comprises 7 majors. The Prime College consists of two departments as degree courses.

As for administrative departments, KNOU has three offices (Office of Academic Affairs, Office of Student Affairs and Office of Strategic Planning), one bureau (Bureau of General Administration) and one headquarters (Education Informatization Headquarters). As for supporting departments, there are 13 regional campuses around the country, the University library, the Digital Media Center, which creates and distributes lecture contents, and the Institute of Distance Education, which researches and develops the policies of the University. KNOU, which has turned out about 690,000 graduates since its establishment in 1972 until 2020, is recently attempting various changes to respond to the changes in the external environment, such as the generalization of higher education, changes in the composition of the population and development of digital technology.

1.2 Students and Characteristics

Throughout its history, KNOU has been fulfilling its social role as the only national open university in Korea that allows adults to participate in higher education. Its tuition is about one-third that of private cyber universities with enrollment being more than 100,000 undergraduates and with the number of graduate students exceeding 2,000. To date, KNOU has turned out nearly 700,000 alumni.

From its establishment until the early 1990's, the number of KNOU applicants continuously increased. Until then, the demand for four-year college education was very high in Korea, but the number of universities was far from enough to accommodate this demand. KNOU has served well

its role of providing opportunities for university education to those adults who, for various reasons including economic ones, could not enter a university. But since the early 1990's, the number of KNOU applicants has been declining, and this trend is continuing in 2020.

The number of KNOU applicants began to decrease in the 1990's because of the changes in the environment of Korea. As the government relaxed the criteria for establishing a university in the early 1990's, many universities were rather quickly founded, and so now about 70% of high school graduates in Korea go to college. Also, the opportunities for various forms of university education and non-traditional universities were founded systematically. Bachelor's degree-level exams for those who prefer self-study and the Academic Credit Bank system are typical examples, and in the 2000s, cyber universities, which offer curriculums by distance learning similar to KNOU, began to be established in earnest. As opportunities for university education expanded in various forms other than traditional universities, KNOU, which was previously the only alternative to university education, remained as such an opportunity, but the number of KNOU applicants has been declining since then.

The key specific characteristics of KNOU enrollment are as follows. First, as previously mentioned, the number of KNOU students has been decreasing. The main reason for this can be attributed to the broad social changes occurring in Korean society, such as the continuous reduction of the population and increase of various forms of institutions of higher education. The number of enrolled students, which previously had been about 270,000 in 2009, has declined by about 47% to about 140,000 in comparison to 10 years ago (see Fig. 1).

Second, KNOU students are gradually growing older. According to the annual investigation of enrolled students conducted by the Institute of Distance Education of KNOU, the average age of KNOU students has increased by 5.7 years over the past 10 years (see Fig. 2). This phenomenon reflects the aging of Korean society, which, according to the future population projections by Statistics Korea, has seen the median age increase by 5.2 years from 38.5 in 2011 to 43.7 in 2020 over the past 10 years.



Number of enrolled students

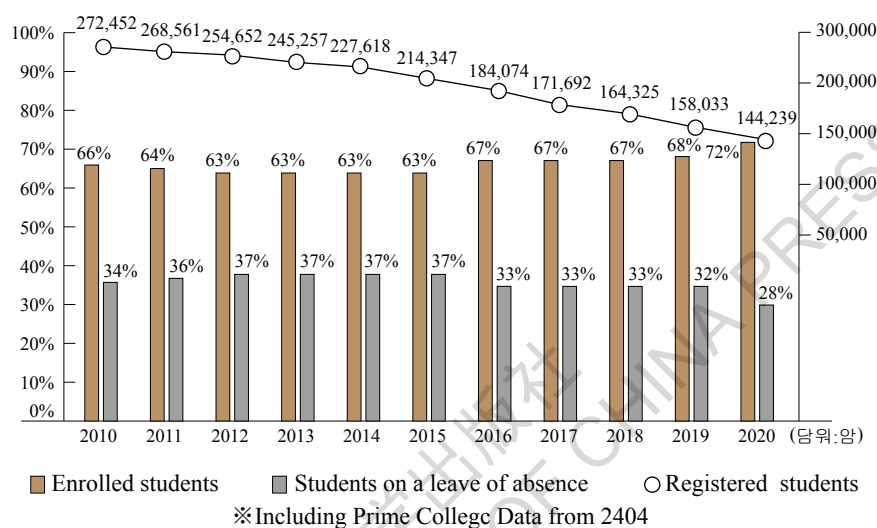


Fig. 1 Number of Registered KNU Students by Year (2010–2020)

* Source: Korea National Open University (2020). Statistical Yearbook, 2020: 4

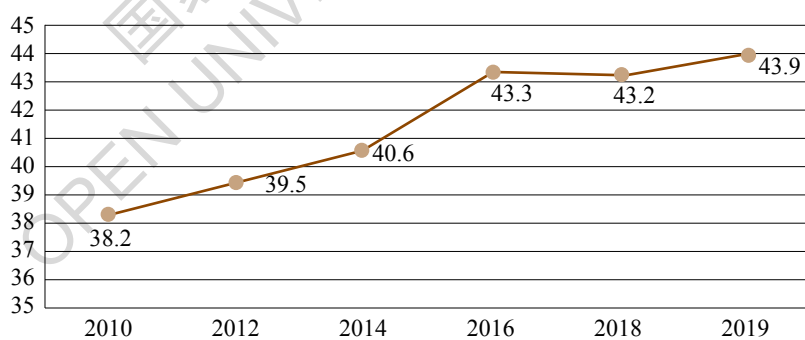


Fig. 2 Average Age of Enrolled KNOU Students (2010–2019)

* Source: KNOU Institute of Distance Education, Investigation of enrolled students for each year.

Third, one of the key characteristics of KNOU students is the increase of transfer students (see Fig. 3). Transference is a system that allows persons who acquired more credits than a certain level in another university to be admitted to KNOU as a sophomore or junior. The increasing percentage of transfer students, not freshmen, in all new registered students means that the number of students who were admitted to a university before is increasing. This can be deemed to reflect the fact that the percentage of students admitted to universities is a whopping 70% in Korea.

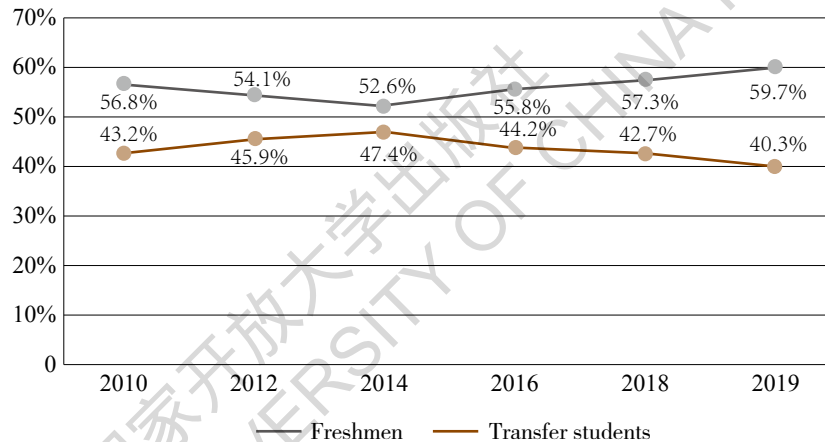


Fig. 3 The Ratio of New Transfer Students to New Registered Students (2010–2019)

* Source: KNOU Institute of Distance Education, Investigation of new transfer students for each year.

To respond to these changes in the enrollment characteristics of KNOU, KNOU is now enforcing various policies and trying to make changes to the system, which will be introduced at a later date.

2. KNOU's Recent Innovative Practices

2.1 Building the New Learning Contents Platform “U-KNOU Campus”

Historically, the media that KNOU primarily used for providing education evolved from mailed packages (correspondence courses) and radio and TV programs to later include content tailored for PCs and mobile devices. Currently, KNOU is using all its traditional media, except radio, as key educational media but the provision of educational content through smart devices (smartphones, tablet PCs, etc.) has been, as a matter of fact, inadequate until recently. Learning contents were provided in forms optimized for desktops. In 2013, KNOU developed and distributed a smartphone App (UKNOU+) and accordingly, students' use of learning contents through mobile devices increased explosively. However, after 2014, the percentage of learners using mobile devices was lower than that of learners using PCs (Kim Sang-hong et al., 2017). The University failed to produce learning contents fit for the Apps of handheld smart devices or to provide services appropriately. To solve this problem, KNOU developed and introduced in March, 2018, its U-KNOU Campus as a new learning contents platform, and has been operating it ever since.

KNOU improved user convenience by optimizing the learning environment not only on PCs but also on mobile devices, and thus making it possible to use all the learning contents provided by KNOU in a streamlined manner. The U-KNOU Campus (<https://ucampus.knou.ac.kr>) began systematic development in 2017 by conducting research and system development at the same time. Through its research, KNOU investigated KNOU students' e-learning habits and their demands, and then developed the U-KNOU Campus.

Looking at the key characteristics of the system, first of all, as the screen is implemented as a responsive web depending on which mobile device is being used, such as PC, tablet PC or smartphone; all learners could experience the same learning environment on all devices (see Fig. 4). Students can watch video lectures, do the exercises and download various materials necessary for learning without restrictions on their devices. According to the research, 69.8% of KNOU students responded that they prefer “computers” and 68.5% “smartphones” as their favored device for watching lectures (multiple responses). They had about the same preference for

computers and smartphones (Kim Sang-hong et al., 2017). Since the introduction of the U-KNOU Campus in 2018, the percentage of students who responded that they are “satisfied” with the system increased from 58.3% in 2018 to 64.6% in 2019. This suggests that students are gradually getting accustomed to the new learning platform (Kim Hwa-min, 2018; 2019).



Fig. 4 U-KNOU Campus Web Screen (Left) and Mobile Screen (Right)

Another characteristic of the U-KNOU Campus is that it provides various contents. Significantly, the various curriculums combined provide more than 1,000 KNOU lectures and various free contents, and students can use the search system to find the contents they want easily and quickly. As all the learning contents of KNOU are easily accessible, user convenience has been greatly enhanced. It is possible to search these contents by topic and institution. For search by topic, the contents are classified into such topics as liberal arts, society, nature, education, arts, home economics, food/health, self-development, multicultural, sexual abuse & sexual violence, and improving the awareness of disability. For search by institution, the contents are classified by the “Prime College”, i.e. the education organization, which combines the undergraduate programs, degree courses and non-degree courses of universities, and the KNOUTV channel.

In this manner, the various contents of KNOU, which the U-KNOU Campus offers, is open to the general public as well as KNOU students to support the lifelong learning plans of citizens as a national university. Non-enrolled students must pay for some lectures to access them. One lecture is available for free before purchasing.

Meanwhile, the U-KNOU Campus provides customized services for individual learners. As they can download information on the classes they are taking, evaluation methods, the coverage of tests and references, they can watch them offline as well. After a certain period of time, however, they will be automatically deleted. Also, students can check their progress, and their individual learning data based on an analysis of learning activities through infographics. Learners can manage their learning schedules in consideration of these materials and their own life routines, and set an alarm on their mobile devices according to their learning schedule (see Fig. 5).

Set the period		
1	Select a date	~ Select a date
Set the period		
2	Mon. <input checked="" type="checkbox"/>	3 Set time
	Tues. <input type="checkbox"/>	Set time
	Wed. <input type="checkbox"/>	Set time
	Thurs. <input type="checkbox"/>	Set time
	Fri. <input type="checkbox"/>	Set time
	Sat. <input type="checkbox"/>	Set time
	Sun. <input type="checkbox"/>	Set time
		4 Save

1 Set the period 2 Select a day of week 3 Set time 4 Save

Fig. 5 U-KNOU Campus App Screen for Setting up a Study Plan

*Source: <https://ucampus.knou.ac.kr/ekp/user/method/retrieveUGDMethod.do?methodCd=03>.

Currently, KNOU is continuously enhancing the U-KNOU Campus so that big data concerning students' learning, accumulated in the system, can be analyzed systematically, and is making efforts to provide customized learning support and services for individual students more effectively.

The U-KNOU Campus system, a new learning contents platform, functions as a tool for cooperating with other universities during the COVID-19 crisis in the first half of 2020. Due to the sudden outbreak of COVID-19, many offline universities, which could not make preparations for distance learning, ran into many difficulties. To help alleviate the difficulties such universities were facing, the Ministry of Education and KNOU, being a national university, opened its lecture contents free of charge and shared them with other universities. KNOU opened the lecture contents of almost all its courses, and teachers of the traditional universities searched the U-KNOU Campus system for lecture contents to use for their own online courses. In the spring semester of 2020, no fewer than 30 universities requested this service, and about 10,000 students took such classes. KNOU extracted the data on the courses taken by the students of other universities from the U-KNOU Campus system, and provided it to them. The cooperation between KNOU and other offline universities would not have been realized so quickly if had not been for the U-KNOU Campus system.

2.2 Building the Test Bank and Online Testing System

Currently, according to KNOU's evaluation, the ratio of mid-term exams to finals is 3:7. The final exams take up a very large portion and are basically composed of multiple-choice questions. To secure the exactness of the final exams, students must be present in a physical space at a designated time to take them. The test schedule is the same for freshmen, sophomores, juniors or seniors. Students must come to one of the 13 regional campuses of KNOU or other nearest schools on the same date and at the same time in person, and take the test. This scholastic assessment system of KNOU was established back in 1994 and has been maintained until now without any major change.

However, recently, the student population has been changing qualitatively and their learning

methods are changing as well, but KNOU's scholastic assessment method has not been improved much and has become an obstacle to the introduction of a new education system. Its financial conditions are worsening due to the decreasing number of students, and new test questions must be written for every test. Employees must stay up all night to edit the test questions, facilities must be rented for the tests, and a large number of people must be mobilized to supervise them. The high expenses laid out for test operations and their overall inefficiency have been pointed out continuously.

The necessity of improving the evaluation system not only in terms of university operations but also from the viewpoint of learners was raised. As learners' demands are diversified, it is necessary to change the education system accordingly. The final exam accounts for 70% of the total score, which was intended to reduce the dropout rate of students. If they miss the final exam, they cannot but give up school. Accordingly, KNOU began to find a way to allow students to adjust or select test dates (Woo Yeong-hee et al., 2018).

After a round of intramural discussions, KNOU recently introduced a test preparation system based on a "test bank" as a means of innovating the evaluation system. A lot of questions are analyzed, sorted and systematized so that they can be used for evaluation depending on education purposes. A test bank is a systematic collection of these test questions. The "test bank-based test preparation system" is used by test preparers to select, edit and print appropriate questions, or in some cases, this system sorts, saves and manages test questions so that it is possible to administer and score tests, conduct statistical analysis of test results and notify test results.

The test bank-based test preparation system has many advantages. First of all, if the test bank is used, the process of writing questions will become more convenient, and there is a greater possibility of evaluating students with better questions than writing test questions immediately before evaluation, and errors in the exams can be reduced. Also, as it can maintain a consistent level of difficulty of scholastic assessment each semester, it lays down the foundation for equalizing evaluation. In addition, it is possible to use the statistical results to immediately know the academic achievement of certain students or all students through the DB, and as the evaluation results of individual learners are accumulated, it can be used to conduct various types of learner

support activities.

In 2018, KNOU decided to research the feasibility of a test bank-based test preparation system (Woo Yeong-hee et al., 2018) so it launched a formal study to do so, and then in 2019 continued the study to further develop the concepts being tried. Then in the summer of 2020, KNOU launched a pilot test program as part of an implementation process. At the start of the study in 2018, KNOU proposed the essential conditions appropriate for the test bank system and its composition, and then conducted simulated online tests. As it was not reasonable to apply it to the final exams from the start, KNOU decided to apply it to the tests for seasonal classes with fewer students on a pilot basis, and then gradually expand its application. To maintain accuracy of evaluation, KNOU had the students come to a regional campus at a time they desired during the test period but use a tablet PC to take the tests instead of paper-and-pencil tests. The University would purchase the tablet PCs for testing in large quantities. Even if the expense of the tablet PCs is taken into consideration, the research showed that it would be possible to reduce the existing evaluation budget. Also, the study proposed a 5-year roadmap for gradual implementation of the full-scale test bank system.

Based on the research, KNOU built the KNOU test bank and online testing system from September 2019 through May 2020. The system is largely divided into three segments, which are the test bank-based test preparation system which exam writers (i.e. teachers) access, the online test management system which test managers access, and the test administration system which learners access.

If teachers use the web editor to enter a question in the test bank-based test preparation system, committee members will determine the selection criteria, such as the component ratios of different levels of difficulty, whether to include short-answer or essay questions, whether to exclude questions from previous tests, and then finally select the test questions. When this process is completed, the test will be generated automatically on the computer screen in the same format as existing paper-and-pencil tests. This process is summarized in Fig. 6.

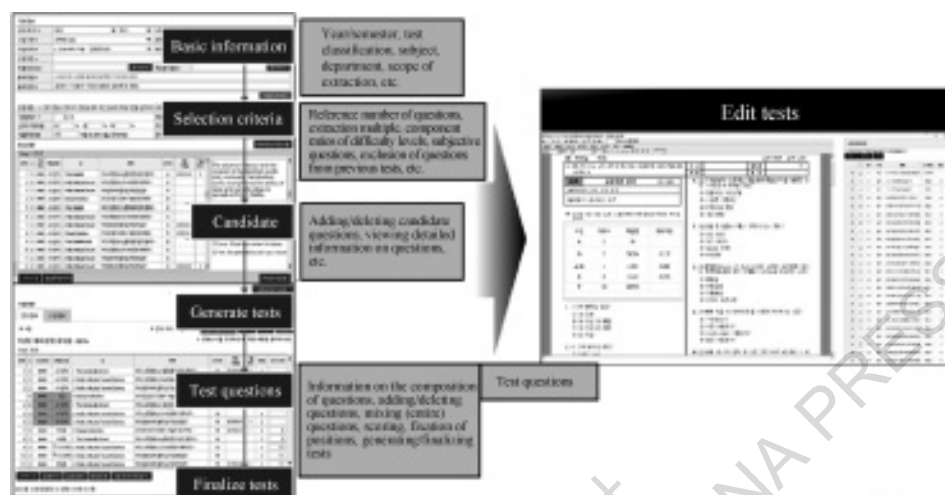


Fig. 6 Automatic Selection of Test Questions after Application of Selection Criteria by the Test Bank System

* Source: Korea National Open University, 2020. Building the KNOU test bank and online testing system (interim report).

The online test management system manages test administration plans, test schedule registration, systematic monitoring of test sites, test schedules and test sites requested by students, and notices concerning supervised tests. As this system allows learners to request the test time and site they prefer, and provides information on whether the maximum number of test takers is reached depending on the size of the test classroom in real time, students can know the times and sites available to them.

The test administration system is used by both test takers and supervisors. Students will visit the regional campus or learning center they requested, and use a tablet PC to take the test. To prevent cheating, if students capture the screen, their student number and name will be automatically displayed as a watermark. A sample screen of the tablet PC with a test question for students is shown in Fig. 7. The screen is largely divided into four areas.

- Information area: The test subject name, the name of the test taker, test time (including the remaining time), the total number of questions, a calculator, etc.

- Question area: Questions, directions, choices, video and images.
- Answer area: The multiple choice answers to each question for the subject is displayed.
- Move buttons: Test taker can use these buttons to go to the previous or next question.

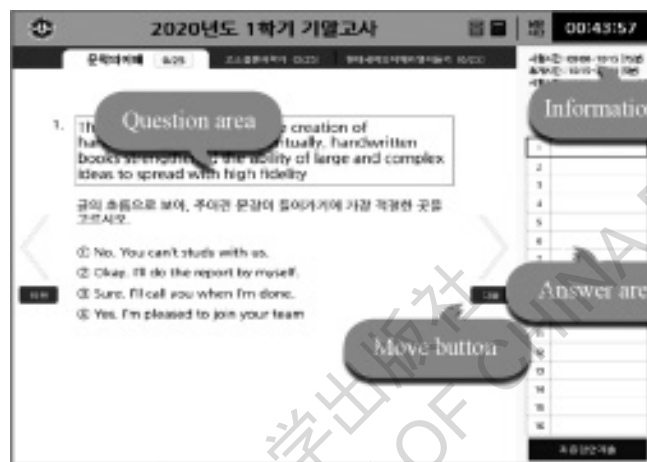


Fig. 7 Example of an Online Test Question Displayed on the Tablet PC

* Source: Korea National Open University, 2020. Building the KNOU test bank and online testing system (interim report).

Additionally, the system also has an online test administration status board to track the current status of online tests and allow for swift response to any technical problems (see Fig. 8). This system can be used to check the test administration status of each regional campus during the test period by time.

University employees and researchers in charge of R & D have trained the teachers, teaching assistants and employees of regional campuses on how to the use of the system, and helped them apply the tests for seasonal classes during the summer vacation of 2020. They are now supplementing the system. More than 70% of the students had a positive opinion about the tests for seasonal classes, and their level of satisfaction with the convenience of the system was 4.2 (5-point Likert scale) (Woo Yeong-hee, 2020). KNOU is now planning to apply it to all final

exams in 2023 after supplementing and stabilizing the system, expanding the wireless networks at test sites in regional campuses around the country, and purchasing additional equipment, such as tablet PCs and charging carts.

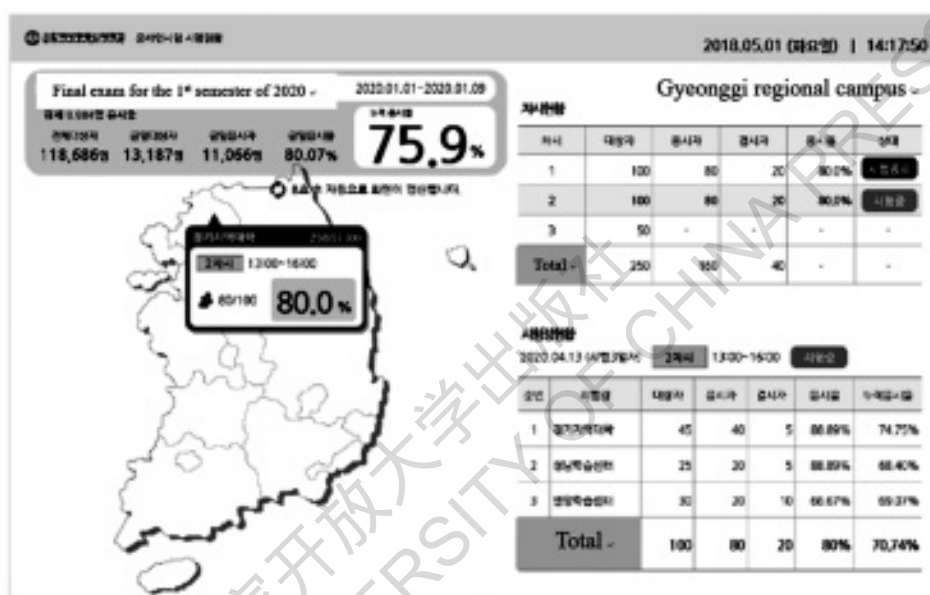


Fig. 8 Online Test Administration Status Board Screen

* Source: Korea National Open University, 2020. Building the KNOU test bank and online testing system (interim report).

In summation, it is now possible to secure and accumulate test questions at any time through the test bank system as well as more easily and securely administer the tests online. The system can also be modified and supplemented easily. Overall, this system can reduce the burden on examiners and contribute to the continual improvement of the quality of questions. And as KNOU had previously determined a rigid test period in the past, students had limited choices, but as students now have the option to choose their optimum test times, the dropout rate due to failure to take exams is expected to decline.

2.3 Improving the Evaluation System: Introducing Formative Evaluation

As mentioned above, in the current evaluation system of KNOU, the ratio of mid-term evaluations to finals is 3:7. Recently, KNOU has realized the limitation of this system, and so research was conducted within the University and opinions were collected from which it decided to include the progress rate and activities in the learning process into the evaluation system in 2019.

The most important purpose of these changes is to substantially improve the quality of learning by shifting the focus of the evaluation paradigm of KNOU from summative assessment to formative assessment. That is, the current evaluation system of KNOU is a result-oriented evaluation system emphasizing term-end evaluation. In particular, as more than 100,000 students take final exams, KNOU is maintaining accuracy of evaluation through multiple-choice tests. As KNOU is heavily dependent on evaluation of results, evaluation of how much students participate in the learning process is minimized to their presence in 6 hours of offline classes per semester. Accordingly, learners' watching of online lectures was not included in the evaluations, and there was no criterion for managing or evaluating the watching of online lectures.

Given this situation, KNOU proposed a formative assessment as a result of a policy study conducted in 2017, and also decided to enable learners to check their progress on their own when it built the U-KNOU Campus system in 2018. Then, after collecting further opinions from within the student body, a semi-final plan was determined in 2019. In 2020, the system and school regulations were further revised. The plan for 2021 is to apply the revisions first to liberal arts classes in the first semester and then to the remainder in the second semester.

The key contents of the improved evaluation system are to increase the number of evaluation types from two to three, and adjust the point distribution, i.e. 20 points for formative assessment, 30 points for interim evaluation and 50 points for term-end evaluation. The proportion of term-end evaluation will be reduced to alleviate the burden of term-end evaluation pressure on the students, and to promote faithful participation in the learning process. Formative assessment was also included. This policy decision was based on the result of a survey of teachers of which 78.4% surveyed were favorable to reflecting the

progress rate to the grades (Lee Bong-min et al., 2017).

Looking at the specific method of formative assessment, first, teachers will make their own evaluation at their discretion using exercise questions and their own progression criterion, but ultimate evaluation will be done by the automated system. This will not increase the burden of formative assessment on learners, but significantly, this system considers the burden placed on KNOU teachers whose classes often have hundreds or thousands of students needing to be assessed. The criterion for evaluating the progress rate is that students will be deemed to have completed each class when they watch more than 50% of the lectures, and they will be deemed to have completed the subject when they complete 12 or more classes, i.e. 3/4ths of 15 classes in total.

As inclusion of formative assessment in evaluation necessitates system development, KNOU began to develop the system in July of 2020, and aims to have it completed by February 2021. The development involves the enhancement and linking of the three systems, i.e. the U-KNOU Campus system, which contains the lecture contents of KNOU, the Academic Affairs Management System, which teachers use to manage the grades of students, and the Learning Management System (LMS).

2.4 Real-Time Online Classes

Until now, one of the key characteristics of the education offered by KNOU has been its practice of blended learning, which combines both online and offline learning. KNOU has been offering this method since its establishment in 1972. As it started out as an open university, KNOU's education comprises learners' watching the assigned lecture videos that teachers made in advance at a convenient time and place, and studying the teaching materials that teachers made themselves. KNOU operates about 350 subjects every semester, 2/3rds of them are taught in 6-hour physical-attendance classes at the 13 regional campuses and learning centers around the country. Students taking subjects offering physical-attendance classes must attend these classes at designated times. It was an example of strict management of academic affairs. During the physical-attendance classes, teachers provide additional explanations about the core contents to learners,

answer students' questions, and evaluate the physical-attendance classes as part of the mid-term evaluation.

Unlike other open universities in Korea, which teach all classes online, KNOU has maintained offline physical-attendance classes as they have a few advantages. For starters, teachers and learners can supplement the online lectures and learn more through face-to-face interactions. In particular, due to the characteristics of Korean educational culture, students prefer to take classes from teachers face to face, so physical-attendance classes are still very popular among KNOU learners even now in the highly advanced digital environment of Korea. Physical-attendance classes have been promoting interactions among learners. Overall, physical-attendance classes have been a positive mechanism for overcoming the limits of online classes that are highly likely to make students feel isolated.

But as the COVID-19 pandemic broke out in 2020, as with the offline classes of schools around the world, KNOU's physical-attendance classes have been facing a crisis. During the spring semester in 2020, offline classes were not offered, and instead, the pre-existing alternative physical-attendance class tests were applied to almost all subjects offering offline physical-attendance classes. Students may take alternative physical-attendance class tests if they have difficulty attending classes on the dates scheduled for physical-attendance classes designated by the school. Until last year, students visited a regional campus on dates they designated to take alternative physical-attendance class tests, which are multiple-choice tests. But due to the COVID-19 pandemic this year, alternative physical-attendance class tests were replaced by submission of assignments starting in the first semester of 2020.

As the pandemic continued, the offline physical-attendance classes were not expected to be offered in the fall semester either, so, in the summer of 2020, KNOU decided to replace the offline physical-attendance classes with online video classes. To this end, KNOU reformed the system for linking the real-time video discussion program with the subject information page that students use. As a result, the screen that students use to log into the university homepage and check information was changed as shown in Fig. 9.

Physical-attendance classes			Online classroom help		Change types of physical-attendance classes				
Subject name	Depart-ment	Year in school	Class/test	Date	Place	Class-room	Period	Time	Zoom URL
Theory of teaching subject matters	Dept of Early Childhood Education	Junior	Physical-attendance class	September 20, 2020	Video class (Zoom)	Online (Zoom)	01–03	09:00–11:50	Video lecture
Theory of teaching subject matters	Dept of Early Childhood Education	Junior	Physical-attendance class	September 20, 2020	Video class (Zoom)	Online (Zoom)	05–06	13:00–14:50	Video lecture
Theory of teaching subject matters	Dept of Early Childhood Education	Junior	Physical-attendance class	September 20, 2020	Video class (Zoom)	Online (Zoom)	11–13	19:00–21:50	Video lecture
Teaching materials learning & instruction	Dept of Early Childhood Education	Junior	Physical-attendance class	September 20, 2020	Video class (Zoom)	Online (Zoom)	09–10	17:00–18:50	Video lecture
Teaching materials learning & instruction	Dept of Early Childhood Education	Junior	Physical-attendance class	September 20, 2020	Video class (Zoom)	Online (Zoom)	11–13	19:00–21:50	Video lecture
Teaching materials learning & instruction	Dept of Early Childhood Education	Junior	Physical-attendance class	September 20, 2020	Video class (Zoom)	Online (Zoom)	11–13	19:00–21:50	Video lecture
Movement education for early childhood	Dept of Early Childhood Education	Junior	Physical-attendance class	September 20, 2020	Video class (Zoom)	Online (Zoom)	07–08	15:00–16:50	Video lecture
Movement education for early childhood	Dept of Early Childhood Education	Junior	Physical-attendance class	September 20, 2020	Video class (Zoom)	Online (Zoom)	11–13	19:00–21:50	Video lecture
	Dept of Early Childhood Education	Junior	Physical-attendance class	September 20, 2020	Video class (Zoom)	Online (Zoom)	11–13	19:00–21:50	Video lecture

Fig. 9 A Sample Screen Providing Real-Time Online Attendance and Class Connection Information (for Students)

As the real-time online physical-attendance class program is a new system, both learners and teachers needed to get accustomed to it for efficient teaching and participation. To this end, the University provided services for teachers and learners to support the utilization of the real-time online physical-attendance class program. First of all, the Institute of Distance Education of KNOU held a teaching method workshop. In this workshop, those teachers who experienced the Zoom program in the first semester shared their experience with other KNOU professors (see Fig. 10). Participating teachers' satisfaction with the teaching method workshop was investigated, and the overall level of satisfaction was 4.27, and their intention to participate in future teaching method workshops was 4.47.



Fig. 10 Teaching Method Workshop: Real-Time Lecture Strategy for Untact Physical-Attendance Classes

Also, to provide information on how to utilize real-time online lectures, the real-time online video lecture utilization guideline and strategy were the topics of the “Teaching Tips” (see Fig. 11) published by the Institute of Distance Education of KNOU every year. A webzine was also produced and distributed to the professors as well.



Fig. 11 Teaching Tips Vol. 1 & Vol. 2

In addition, the professors who are teaching subjects have been thinking of improving the quality of education by discussing the strategy for operating the real-time online physical-attendance classes with the instructors of physical-attendance classes at regional campuses, so KNOU assigned separate instructors for physical-attendance classes to take charge of the physical-attendance classes for relevant subjects as it was difficult for teachers to participate in all the offline physical-attendance classes offered at the regional campuses. As the physical-attendance classes of the fall semester became real-time online lectures, teachers shared their strategies for operating real-time online physical-attendance classes through Zoom with the instructors of the real-time online physical-attendance classes at the regional campuses.

Meanwhile, KNOU utilized the Learning Tips that the Institute of Distance Education published for learners. It used to be published as a webzine every year, but this year, a video was produced under the topic of the learning know-how in the age of COVID-19, and uploaded it to the KNOU YouTube channel and distributed it. A video was produced teaching students how to write a paper, which is a type of mid-term evaluation, and uploaded and distributed it to the KNOU YouTube channel as well. Also, school employees and teaching assistants used to give special offline lectures about how to write a paper and how to use the library in regional campuses. Now, they are given in the form of real-time online lectures. Through this change, students had an opportunity to get accustomed to real-time online classes.

In the fall semester of 2020, almost all physical-attendance classes, except for those subjects which require face-to-face practicums for obtaining licenses, are offered online in real time, and as of October, the real-time online video classes are ongoing without any problem. As a result, the school is actively considering switching more offline physical-attendance classes to online.

2.5 Establishing Departments Reflecting Educational Demands

The recent crisis facing KNOU is the reduction in the number of students. Facing the crisis caused by the changes in the social environment and the absolute decrease of the population, KNOU has prepared various countermeasures, and changing the system described above and the academic affairs system can be said to be an example. In addition, to meet the diversifying needs of students, KNOU is continuously trying to establish new departments, and as part of this effort, it opened the Department of Social Welfare in 2018. KNOU explicitly divided specialties in one department, and has been making continued efforts to improve the quality of education in major fields, but it was the first new department KNOU established since 2003.

The establishment of the Department of Social Welfare has two backgrounds. One is the background on a personal level. As interest in welfare is increasing in Korea, many adults have a high demand for obtaining a social worker license to get a job in social welfare organizations. The demand for a more professional understanding when participating in volunteer activities is also rising. If this is the background on a personal level, from the social viewpoint, the need to train professionals who can contribute to social communities is also increasing.

By reducing the number of students in departments with a low student recruitment rate among the existing 22 departments, KNOU established the Department of Social Welfare in 2018 with a quota of 2,000 students. KNOU began to design curriculums and developed and produced contents for new subjects in 2017. One years later, KNOU established its Department of Social Welfare, which is deemed to have been an effort to appropriately reflect society's educational needs. The index, which best represents the effect of the Department of Social Welfare, shows that the number of KNOU applicants has decreased. Indeed, the number has been decreasing

from 2018 until 2020 (see Fig. 12). As illustrated in Fig. 12, the number of applicants has been continuously decreasing, but the slope has flattened conspicuously since 2018.

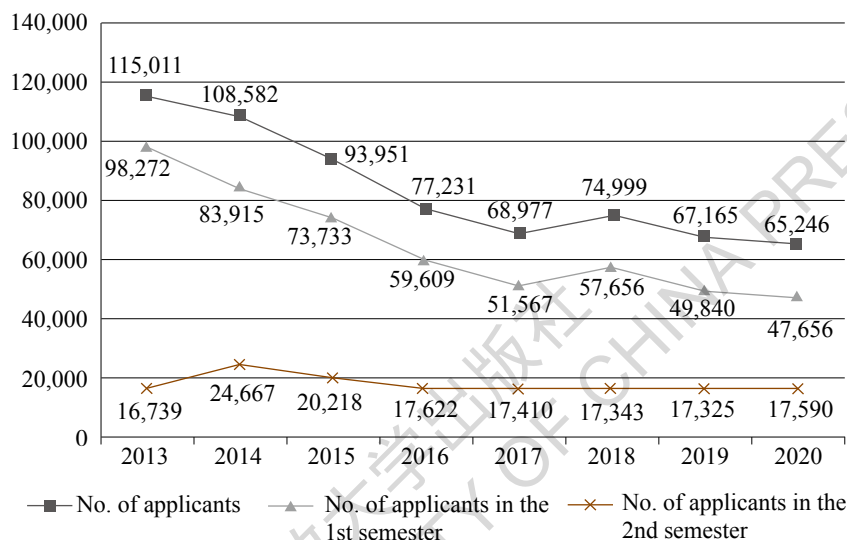


Fig. 12 KNOU Applications from 2013 to 2020

* Source: Korea National Open University Institute of Distance Education, 2020. Analysis of the characteristics of KNOU applications of 2020//IDE statistical analysis report.

The fact that the changes in the number of applicants were influenced by the Department of Social Welfare is made more obvious by the number of applications of each college (see Fig. 13). KNOU has four colleges, i.e. the College of Liberal Arts, the College of Social Sciences, the College of Natural Sciences and the College of Educational Sciences. The Department of Social Welfare belongs to the College of Social Sciences. As shown in Fig. 13, since 2018, the number of applications for the College of Social Sciences has been sharply increasing unlike applicants for other colleges. Even in 2020, the number of applicants for the College of Social Sciences is maintained without any big drop.

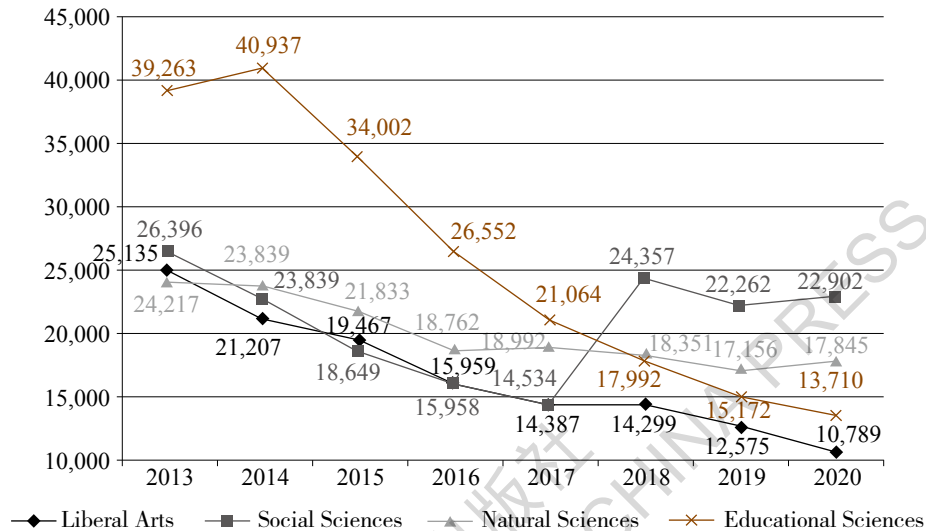


Fig. 13 Applicants by KNOU College from 2013 to 2020

* Source: Korea National Open University Institute of Distance Education, 2020. Analysis of the characteristics of KNOU applications in 2020/IDE statistical analysis report.

Encouraged by the success of the Department of Social Welfare, KNOU is now planning to establish new departments in 2021 in order to reflect society's demand for education and guarantee students' right of choice. Reflecting the increasing social interest in and demand for health, KNOU established the Department of Sports for All with an entrance quota of 1,500 students. KNOU determined the quota by reducing the number of students in existing departments, which have shown a decrease in the number of applicants, like the Department of Social Welfare.

In addition to establishing new departments, KNOU changed the names of existing departments to reflect the social demand for education. The department whose name was changed most recently is the Department of French Language and Literature. It was renamed as the Department of French Language and Culture, and the Department of Environmental Health was renamed as the Department of Health Environment. And starting in 2021, the Department of Information and

Statistics will be renamed as the Department of Data Science and Statistics. Changing the names of the Department of Health Environment and the Department of Data Science and Statistics reflects the increasing interest in data due to the 4th Industrial Revolution to emphasize the links with the environment while focusing on the life and health of people.

2.6 Reduction of Credits Required for Graduation

To graduate from KNOU with a bachelor's degree, students must earn 140 credits. However, to help students perform better in their academic work, KNOU recently decided to reduce the number of graduation credits. It can be said that this policy reflects not only the recent overall changes in Korean universities, but also the characteristics of KNOU students most of whom are working and studying at the same time.

Currently, most traditional offline universities in Korea require about 130 credits for graduation with a bachelor's degree although there are differences depending on majors. Although most KNOU students are working full time or taking care of a family while attending school at the same time, they must earn more credits than the number that young people (who can devote themselves fully to academic work in general offline universities) must earn to graduate with a bachelor's degree. In general, the undergraduate curriculums of Korean universities are operated as a 4-year, 8-semester system. This is the same for KNOU. To earn 140 credits in four years, students must complete six subjects every semester. This is more than the number of credits that young people, who enter a university right after high school and can devote themselves only to academic work, must earn. To graduate in just four years from entering KNOU, KNOU students must take six subjects in one semester. According to the survey of enrolled students, 30.8% of them said they are quitting school "because of work or housework" (Kim Hwa-min, 2018). According to the survey of enrolled students conducted in 2019, about 62.0% of all respondents said they considered requesting a leave of absence or disenrollment, and 42.7% of them said that the appropriate number of subjects they must take per semester is 3–4. Accordingly, KNOU's reduction of graduation credits was deemed to be necessary as a means of promoting effective learning and helping

the students to stay in school by reducing the burden of school work and reflecting the situations of adult learners (Jeong Hye-ryeong et al., 2019).

The necessity of reducing graduation credits began to be raised through several policy studies (Nam Shin-dong et al., 2014; Sa Gong-hwan et al., 2016; Jeong Hye-ryeong et al., 2015; Joo Hyeong-seon et al., 2016) in 2010, but it was not until 2017 that the university administration began to discuss it in earnest. Then, the opinions of professors, employees and students were collected, and at the end of 2019, the specific plan to reduce graduation credits was finalized.

The final plan is to reduce graduation credits to 130 credits. Looking at the specifics, the KNOU administration held lengthy discussions about how and when the new policy will be applied, and in December 2019, it was finalized. For two years starting from 2020, the academic affairs system will be reformed, and a roadmap will be implemented in full in 2022. As most students graduate in 4–5 years in other general offline universities, they reformed the academic affairs system by applying it to new students according to the year they are admitted. However, as students have very different enrollment periods due to frequent leave of absence and reinstatement, KNOU will not use the year of admission but will instead apply the new policy to all KNOU students, including those students who are on a leave of absence, starting in 2022. To minimize confusion among students and enable them to plan their classes well in advance, KNOU has been actively publicizing it to them starting from 2020.

If the reduced graduation credits are applied to all students, there may be too many graduates. Some pointed out that the school may see its revenues decrease. As the dropout-rate may decline due to the reduced burden of academic work, however, they thought that they could make up for the reduced revenues.

3. KNOU's Future Plan

It can be said that KNOU has made efforts to meet the broad social demand for education and to

expand learners' right of choice and improve the quality of education through several initiatives such as implementing the U-KNOU Campus system and new learning contents platform, developing the test bank and online testing system, improving the evaluation system, introducing real-time online video classes, establishing new departments reflecting educational needs, and reducing the credits required for graduation. Now, KNOU will celebrate its 50th anniversary in 2022. KNOU has been preparing for a new half century since its establishment, and is recently preparing for a second takeoff.

The initial concept was launched with the enactment of the Act on the Establishment and Operation of Korea National Open University. In Korea, KNOU has a unique position. As the only national open university in Korea, KNOU is a university that offers higher education, lifelong education and distance education at the same time. In Korea, there is no other university that performs the same function as KNOU. But there is no legal basis for the establishment of KNOU except a subordinate statute stated in the Decree on the Establishment of Korea National Open University. As it prescribes superficial matters and its basic organization was described very perfunctorily, it is difficult to say that the decree is reflecting the intrinsic characteristics of KNOU. Furthermore, as the advent of lifelong learning and the digital age are upon us, diverse and flexible curriculums and academic affairs operations are required, so it is clear that the current decree is not enough for KNOU to effectively respond to these trends. It is necessary to enact a law that will appropriately reflect the identity and specificity of KNOU. If this law is enacted, KNOU will not only receive government support more stably, but also perform its unique social role and function different than those of other offline universities on a solid legal basis.

With this in mind, KNOU has been concentrating on the enactment of the Act on the Establishment and Operation of Korea National Open University since 2018. Staring off with a study for enactment of the law (Moon Byeong-hyo et al., 2018), 170 of the 300 National Assembly members signed and proposed a bill as of 2020. As many National Assembly members are participating in the proposal, it is expected that the law is highly likely to be enacted, and

KNOU is preparing an Enforcement Decree based on this Act.

Another plan KNOU is trying to implement is to set up a doctoral program. According to the Higher Education Act of Korea, open universities, including KNOU, can only offer a master's program, not a doctoral program. According to Article 52 of the Higher Education Act, however, the purpose of an open university is to "train human resources the State and society need by providing citizens with an opportunity to undergo higher education through distance education via information and communications media, and to contribute to the development of lifelong education by realizing an open learning society". Given the meaning of this provision, allowing open universities to offer only master's degree programs but not doctoral programs does not conform to the purpose of open universities prescribed in the Act. In particular, at a time when the college entrance rate of Korean high school graduates is as high as 70% and the number of highly educated people is increasing at an accelerated pace, the demand for more professional academic learning is gradually increasing, and the development of new technologies is accelerating. So, it can be expected that the demand for continued and professional learning will continue to grow.

Aware of this problem, KNOU drafted a legislative bill, which includes a provision allowing KNOU to offer doctoral programs in a study conducted in 2018 (Moon Byeong-hyo et al., 2018). The KNOU legislative bill, which was proposed by National Assembly members in 2020, did not include, after heated discussions, the provision related to the establishment of a doctoral program, but a meaningful advance was made. KNOU mentioned that many foreign open universities are offering doctoral programs and reiterated the main purposes of open universities, and continuously explained the necessity of offering a doctoral program in open universities to the government. With regard to this, the Ministry of Education conducted a study on the necessity of having doctoral programs in open universities, including KNOU, and concluded that it would be necessary to positively review the idea as a result of the study. Accordingly, sooner or later it is expected that open universities will be able to set up doctoral programs.

With the 50th anniversary soon approaching, KNOU is planning to continuously make various efforts at innovation for the sake of a second takeoff. As an open university fulfilling its social responsibilities, it will make endless efforts to support the lifelong learning of learners while responding to the educational needs influenced by changes in the society.

References

- JEONG H R, YOON C G, WOO Y H, 2015. A plan to overcome factors affecting the retention rate of KNOU students. Policy research: 14–19.
- JEONG H R, MOON B G, JOO H S, 2019. A study on reduction of KNOU credits required for graduation. Policy project: 19–05.
- JOO H S, HWANG J W, 2016. A plan to reform the curriculums to increase the retention rate of new and transfer students. Policy research: 15–23.
- KIM S H, KIM H C, KIM Y, et al., 2017. Designing the smart learning-based future knowledge portal of KNOU in preparation for the 4th Industrial Revolution. Policy project: 17–13.
- KIM H M, 2018. Investigation of enrolled students in 2018. Fact-finding investigation: 18–03.
- KIM H M, 2019. Investigation of enrolled students in 2019. Fact-finding investigation: 19–03.
- Korea National Open University Institute of Distance Education, 2020. Report on the result of the 1st teaching method workshop of 2020.[S. l.]: [s. n.].
- Korea National Open University Institute of Distance Education, 2020. Analysis of the characteristics of KNOU applications in 2020. IDE statistical analysis report: 4.
- LEE B M, WOO G B, KIM D W, et al., 2017. An evaluation method focused on the learning process to improve the learning effects of KNOU students. Policy project: 17–11.
- LEE D J, JEONG H R, JEONG Y H, et al., 2018. Understanding the distance university education. Korea National Open University Press.
- MOON B H, KIM J W, KWON H R, et al., 2018. A study on the “Act on the Establishment and Operation of Korea National Open University”. Policy project: 18–14.
- NAM S D, JEONG Y S, HWANG J W, et al., 2014. Analysis of the types and determinants of dropouts to improve the retention rates of KNOU students. Policy project: 13–21.
- SA G H, KIM S A, KIM J H, et al., 2016. Establishing projects to innovate universities to reinforce the

competitiveness of KNOU education. Policy project: 15–21.

Statistics Korea. Population estimate. [2021–03–19]. <https://kosis.kr/index/index.do>.

WOO Y H, KIM Y I, KIM M J, et al., 2018. A study on introduction of the test bank-based test preparation system. Policy project: 18–16.

WOO Y H, KIM M J, JOO H S, et al., 2020. Analysis of the convenience of the test bank and online test system and deriving improvements. [S. l.]: [s. n.].

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS



Dr. Uwe Elsholz

The COVID-19 pandemic may be unique for its global scope and its effect in prosperous countries, yet it is neither the first epidemic nor the only catastrophe in the last 50 years on this planet that has led to dramatic consequences. As educators around the globe, we need to work together in order to develop resilient educational systems for the future as proposed by the DAAD and the International Council for Distance Education. It is our job to make use of the opportunities digitalization offers for education...

Prof. Dr. Uwe Elsholz is the Vice-President for Continuing Education, Knowledge Transfer, and International Affairs and holds the Chair of Lifelong Learning at the FernUniversität in Hagen. He is an expert on permeability between vocational and higher education, recognition of professionally acquired competencies and transition of students with professional experience into a degree program. His research centers around continuing vocational and academic education, including investigating the effects of academization in terms of educational structures, didactics and curricula, the use of digital media in vocational and higher education and work-based learning. He plays a leading role in research and development projects on the use of digital media in vocational education as well as increasing permeability between vocational and academic education and is a member of the Executive Board of the FernUniversität's Digitalization, Diversity, and Lifelong Learning research cluster. Prof. Elsholz serves as a member of the supporting scientific research team for the German federal and state governments' joint competition Advancement through Education: Open Universities and on the Supervisory Board of the European Association of Distance Teaching Universities.



FernUniversität in Hagen
<https://www.fernuni-hagen.de/english/>

More than Distance Learning!

—New Challenges for FernUniversität

Uwe Elsholz, Vice President of FernUniversität in Hagen; Desirée Kampmeier

Abstract

The FernUniversität in Hagen (FernUni) is the only state-funded distance-learning university in Germany with a blended learning model. As all over the world, in Germany all universities had to resort to online teaching for most parts of the summer and winter term in 2020. During the first phase of the SARS-CoV-2 pandemic, the FernUniversität was able to present its strengths and experiences in distance teaching, being the only university that was able to start the summer term regularly on April 1 without major constraints. However, the FernUniversität has been facing a number of chances and challenges during the pandemic that resulted and will further result in rethinking of its self-conception and strategic outline for upcoming years. With the massive move to online teaching and learning, the FernUniversität will need to refocus itself as the German university for lifelong learning, offering flexible models for a wide range of diverse learners. The FernUniversität is now challenged to distinguish its prior unique characteristic. The answer is to strengthen our brand as a lifelong learning university.

1. The FernUniversität and Its Position in the German Higher Education System

As Germany's only state-funded distance-learning university, the FernUniversität in Hagen fulfills a unique role in the German higher education system of about 400 universities and universities of applied sciences (and arts). It serves the largest student body in Germany with nearly 80,000 students. In comparison, the University of Cologne, which is the largest on-campus university, has 54,000 enrolled students. The FernUniversität is providing flexible study options in order to make higher education accessible for students whose needs are not met by traditional on-campus universities. Through new approaches towards education and innovative research, it contributes answers to the challenges facing education and society in the future.

Founded in 1974 in response to increasing national student numbers and an increased need for flexibility in higher education, the FernUniversität's focus has always been on innovation in education, backed by research and based in its particular expertise in distance learning. The FernUniversität offers a wide range of in-demand degree programs, all of them in German language, which are offered by the five faculties of the University: the Faculty of Humanities and Social Sciences, the Faculty of Mathematics and Computer Science, the Faculty of Business Administration and Economics, the Faculty of Law, and the recently founded Faculty of Psychology. The FernUniversität imparts knowledge and enables access to higher education. With its flexible study programs, it serves the most diverse student population in Germany. Most FernUniversität students (80%) study parallel to their regular working careers or fulfill parenting or other care responsibilities. Around 45 % of FernUniversität students have already completed an undergraduate degree, while others foster their vocational training or career experience with academic study. More than 7,000 FernUniversität students do not have a formal entrance qualification for higher education and were admitted on the basis of their vocational qualifications. These are far more than at any other university in Germany (14% of all Bachelor students at FernUniversität in comparison to 1% German average)^①. Around 6,000 students enroll at the

① Internal statistic, Winter Term 2018/2019.

FernUniversität from abroad (9% of the overall student body)^①. FernUniversität students can plan their studies according to their individual pace and requirements. As a basis, they have printed study materials, which are sent by regular mail in physical form and are further made available online. The use of digital media in particular makes it easy to study on the go—students can access the necessary materials anywhere and at any time.

The FernUniversität has embraced the diversity of its student body as a fundamental part of its profile. Within the framework of the Diversity Audit “Vielfalt Gestalten” [translation: Designing Diversity] of the Stifterverband für die Deutsche Wissenschaft (Donors’ Association for the Promotion of Sciences and Humanities in Germany)^② that has been performed 2015–2018, key actions have been identified and the University’s mission statement “Diversity” was developed.

Its original teaching concept, designed by a committee of experts in the field, has consisted of a mixture of printed study materials, audiovisual media, and in-person advising and instruction. Since then, its blended learning approach has evolved to incorporate new technological advances, with the FernUniversität becoming an early adopter of digital technology in education in Germany.

At the same time, human interaction and support remain at the heart of the FernUniversität’s distance learning system. It’s mainly national but also internationally distributed regional centers and their associated study centers play a vital role as the local face of the FernUniversität and the first point of contact for students at 13 locations throughout Germany. Centers for students exist also in Austria, Hungary, and Switzerland. These centers offer information, advising, and support for current and prospective students. They also host in-person events, seminars, and mentoring sessions for students, provide a meeting place for study groups, and features events for the public, such as lecture series, alumni celebrations, and other events.

The FernUniversität’s focus on innovation and addressing the challenges of the future is also

① Internal statistic, Winter Term 2018/2019.

② Stifterverband, 2020. <https://www.stifterverband.org/diversity-audit>.

reflected in its research. In addition to strong research within its academic disciplines, the FernUniversität has established interdisciplinary research clusters, which address overarching issues for education and society. These include the impact of digitalization on education and culture (Digitalization, Diversity, and Lifelong Learning—Consequences for Higher Education), as well as issues of energy, environment, and sustainability (Energy, Environment and Sustainability).

Using the Internet, students collaborate with one another, communicate with teaching staff, and research academic literature. The University library not only offers traditional services like interlibrary loans but also services specially tailored to distance learning, such as virtual reserve shelves with required and recommended reading. Students and teaching staff alike profit from a distance learning system, which focuses on digital technology and instructional design. By incorporating the findings of its researchers, the FernUniversität continuously develops and refines new educational tools and didactic strategies.

Not only in the domain of teaching, but also in research, the FernUniversität places a special focus on its specific educational mission by the foundation of the interdisciplinary research cluster D²L² “Digitalization, Diversity and Lifelong Learning—Consequences for Higher Education”. The research cluster deals with questions of the digitalization of higher education and the associated consequences as well as framework conditions. The scientific goal of the research cluster is to characterize diversity in relation to the whole range of educationally relevant variables. In addition to the classical socio-demographic components, these include, for example, individual prior knowledge, the ability to self-regulate and control oneself, and the question of how diverse an optimal group should be. Furthermore, theory-based research is to be advanced. The focus will be on questions of how digital technologies can be used to respond adaptively to increasing student diversity in personalized teaching/learning scenarios. Scientists from various disciplines of FernUniversität and associated faculties cooperate to address these issues from educational, psychological, economic, business informatics, legal, and computer science perspectives.

2. The SARS-CoV-2-Crisis and Its Impact on Higher Education Institutions in Germany

As in many other countries, the coronavirus outbreak in the spring of 2020 in Germany led to the shutdown of all universities and thus confronting them with various challenges.

In addition to the nationwide measures against the pandemic, in March 2020 the Federal States of Germany made arrangements in coordination with the Federal Government concerning the higher education institutions (HEIs) to target the spread of the SARS-CoV-2 virus. As in most countries all over the world, one of the key actions was to minimize or cancel on-site teaching as well as any in-person-events at universities and instead to resume to online based teaching formats. On March 2nd 2020 during a meeting of the office heads of the “Ständige Konferenz der Kultusminister” [Standing Conference of the Ministers of Education and Cultural Affairs of the Länder] the Federal States agreed on certain aspects regarding the summer term 2020 and the winter term 2020/21. First, the semester dates were to be maintained as usual. However, lecture times during the summer term could be handled in a flexible manner. Besides, HEIs could alter the period for application and admission if necessary.^①

For the winter term 2020/2021, hygiene concepts as well as the general spacing and social distancing rules still apply throughout Germany. As a result, classes are rarely held in person at universities. Instead, universities have implemented a mixture between digital teaching and teaching on campus, the latter often applied to practical and experimental classes as well as introductory sessions. With the constant rise of COVID-19 cases in Germany in October, most of the Federal States in Germany agreed to revert to digital teaching whenever feasible from November on. However, there has been a slight ease in regulation concerning incoming mobility of students from non-EU countries in the second half of 2020. Unlike during the summer term 2020, incoming students that apply for a visa in order to start and conduct their studies in Germany do not need an additional proof that their studies required face-to-face

① Hochschulrektorenkonferenz, 2020. <https://www.hrk.de/themen/hochschulsystem/covid-19-pandemie-und-die-hochschulen/>.

(F2F) teaching anymore.

The COVID-19 crisis has shown that the FernUniversität in Hagen model is resilient: the FernUniversität was the only university in Germany that started its semester regularly on April 1st whereas other universities delayed the start of the semester for about four weeks. The impact of the pandemic on the study and teaching model of the FernUniversität was rather low compared to the impact on the administrative level of the University (e.g., concerning admission and advisory processes). Of course, direct contact with students and the public had to be drastically reduced: Seminars and kick-off events that normally would have taken place in the regional centers have been canceled or held online. Therefore, the regional centers have been affected the most by being closed to students and public in spring. The student advisory service switched to online meetings as well. Gradually, the regional centers reopened in summer for face-to-face meetings but made previous appointments mandatory.

The major challenge for the FernUniversität during the pandemic was to hold regular exams and student assessments. Before the crisis, many students of the FernUniversität wrote their exams in lecture halls of other universities in various cities throughout Germany. During the digital semester and because of the Corona regulations other universities have reached their capacity limits and could not provide enough space for the exams of FernUniversität students. However, when the pandemic spread in spring, less than half of the exams of the previous winter term had been completed. As a result, many exams had to be delayed. The FernUniversität has rented larger rooms for the revision exams, which allowed more than one hundred people at a time to maintain a distance that abides the measures demanded by authorities. This was particularly the case at the largest faculty of the University, the Faculty of Economics. Because the decisions about exams are mainly made at the faculty level, other faculties shifted to online exams. Some of these exams were multiple choice, but open book exams were more common. This was an innovation and new experience for students and staff. Overall, despite some minor organizational and technical issues, the move to online exams and e-assessments has been well received by students and staff.

However, besides the challenges in higher education, the impact on the structural and strategic level has been much more profound. The pandemic has greatly accelerated the process of

digitalization of administrative processes and in teaching and learning in the higher education sector in Germany and thus paved the way for new collaboration and innovative projects. Therefore, the University has been presented with various new opportunities and projects.

In the weeks of spring in 2020, FernUniversität suddenly moved to the focus of attention amid the challenges/burdens of the nationwide forced switch to distance teaching in schools and HEIs. The FernUniversität as the only state distance-teaching university in Germany stepped in and supported HEIs and schools with her expertise in media didactics, instructional design and online teaching. As a result, the FernUniversität provided support and infrastructure to other universities, schools, and teaching staff as well as interested learners who were willing to invest time during the pandemic into further education.

- Some courses at FernUniversität were opened to learners, who were not enrolled at the FernUniversität. Due to increase demand in shorter learning units, FernUniversität has opened up its Open Access Studies program (Akademiestudium). Students are able to register for individual courses or modules without committing to a full degree program. The Open Access Studies program gives students the flexibility to pursue learning according to their individual needs, whether they want to expand existing skills and knowledge for professional reasons, pursue a personal interest, or just find out whether distance learning is a good fit for them.
- On a structural level, FernUniversität has launched with some partners a nationwide community of practice for actors of the education sector, who are responsible for the digital change in their institutions. FernUniversität founded in collaboration with the think tank HFD (Higher Education Forum for Digitalization) a community of practice in order to improve digitalization in higher education. At the kick-off session in April 2020, there were about 200 attendees from all over Germany. FernUniversität and HFD provided a platform and opportunity for teachers and management staff to exchange about various topics and challenges of the pandemic, e.g., student engagement, experiences with online exams, accessibility, diversity, and hybrid teaching formats^①.
- Another approach was the tandem mentoring program: teaching staff from FernUniversität provided mentorship to staff from the same field at on-campus universities. E.g., a professor of

^① Hochschulforum Digitalisierung, 2020. <https://hochschulforumdigitalisierung.de/de/news/community-of-practice-starthilfe-corona-semester-fernuni-hagen>.

law supports another professor of law on how to digitalize the lectures.

- In addition to the peer-to-peer training, FernUniversität's eTeaching Certificate, an internal training program for e-learning developed in 2017, was made available to the general public as self-learning courses on the open Moodle platform^①. These courses cover topics such as instructional design and tools for implementing digital learning. Target group of the eTeaching Certificate are mentors and online tutors that need a quick introduction into media enhanced distance teaching.

In addition to national initiatives and projects to redesign online-supported teaching, numerous projects in Germany were driven forward in the area of international cooperation. In the uncertain and rapidly shifting landscape of the COVID-19 pandemic, initiatives to internationalize digital teaching and learning have become increasingly relevant for all HEIs. Key concepts such as digital internationalization, virtual mobility, virtual exchange, internationalization at home, and internationalization of curricula are currently being explored widely and globally.

The German Academic Exchange Service (DAAD), a major funding agency for international programs, has launched a new funding line: International Virtual Academic Collaboration (IVAC)^②. The program aims to intensify international university cooperation and to support universities in designing new mobility patterns with international partners. With a total of four projects funded through the DAAD's International Virtual Academic Collaboration program, the FernUniversität is the best-represented German higher education institution in the program. The projects give all students—regardless of a real stay abroad—the opportunity to gain intercultural experience during their studies. The teaching areas also benefit by expanding their experience in using digital formats in teaching and consolidating their cooperation with foreign partner universities.

Compared to schools, the transition to digital teaching at universities has been relatively successful. With the pandemic still tightening its grip in Europe at the end of 2020, it is hard to

① FernUniversität Hagen, 2020. https://www.fernuni-hagen.de/arbeiten/personalthemen/fortbildung/zertifikatsprogramm/e_teaching_zertifikat.shtml.

② DAAD, 2020. <https://www.daad.de/de/infos-services-fuer-hochschulen/weiterfuehrende-infos-zu-daad-foerderprogrammen/ivac/>.

predict the further impact of the pandemic on the higher education sector. Many students have postponed their semester abroad or even plan to delay the start of their degree study. Overall, it is safe to say that the pandemic will have an extensive impact on higher education.

3. Challenges and Opportunities for FernUniversität in the Post-COVID-19 Era

Nationwide universities were forced to switch to a much larger scope of online education than before. Even in the second semester term of the pandemic there is still a discussion in the field on how to handle the crisis. Questions remain about the new normal of teaching in a time when a vaccine will be available and the pandemic will be overcome. However, the pandemic initiated changes that are crucial for the future development and strategic outlook of FernUniversität. Therefore, it can be expected that even after the COVID-19 crisis—and even if most universities will have returned to on-site teaching—the FernUniversität will gradually lose its priorly unique characteristic in Germany, especially concerning the use of media in distance education. As a result, the FernUniversität needs a constant and critical review of its profile and role it wants to take among the other HEIs in Germany. As a result, the FernUniversität is more than ever forced to refine its profile and to distinguish itself as a university for lifelong learning in order to accompany the learners throughout their careers. In the following, main strategic outlines to tackle the challenges of the post-COVID-19 era are presented.

3.1 Learner-Centered Teaching and Lifelong Learning

A special profile characteristic of the FernUniversität as a distance teaching university, apart from the aspect of distance learning itself, is its focus on the needs of its heterogeneous target group. The majority of the students of the FernUniversität are employed or have an occupation besides their study^①. In addition, there are many students at the FernUniversität, who are unable to pursue a full-time course of study either because of their family obligations or because of chronic illness

① 21. Sozialerhebung, 2017. <http://www.sozialerhebung.de/archiv>.

and have therefore opted for a flexible distance-learning program.

Within the framework of the mission statement “Diversity”, the FernUniversität advocates that, in the field of lifelong learning, its specific study system should enable a university distance-learning program for each individual of its inherently diverse main target group. At the FernUniversität, the diversity of its students, with their diverging life paths, educational backgrounds, professional experience and educational goals, has always been present and their appreciation is self-evident. Thus, the FernUniversität focuses in particular on study-relevant diversity dimensions in teaching and research at the level of educational prerequisites, study conditions and educational goals. Therefore, the recognition of prior learning has to come into focus of FernUniversität more than ever to enable lifelong learning for those, who have learning and professional experience.

For the future orientation of the FernUniversität, it is even more important to invest continuously in its strengths in teaching and aim at greater didactic flexibility to enable students to pursue their individual study goals in the best possible way, regardless of their particular life situation that might impose further hurdles and obstacles to obtaining university education. In this way, the FernUniversität makes a valuable contribution to create equal opportunities. With all macro-level developments in the institution as a whole, its strategies and projects, it is therefore important to keep its focus on the micro-level: the learner.

3.2 Implementing Innovative Teaching Formats

The higher education system in Germany is characterized by the Bologna Process and the introduction of a 2- or 3-level degree system (Bachelor-Master-PhD). The aim of the Bologna Process was to standardize and thus to achieve comparability and mutual recognition of higher education degrees across Europe. This should further increase the mobility of lecturers and students and promote cooperation between universities across national borders. However, especially in the last decade the European education area has seen an increasing need for upskilling and reskilling the labor force on the one hand, and the emphasis on student-centered learning and need for flexible learning paths on the other. This has led to the emergence of new

credentials and short study courses^①.

One example for a new emerging format is the so-called European Short Learning Programs (ESLPs).^② They are short teaching units, usually ranging from 5 to 30 European Credit Transfer and Accumulation System (ECTS) points, 1 ECTS point associated for 30 hours of work, which are completed with a certificate and are integrated into the Bachelor and Master programs. Currently, however, there is no consensus on the exact definition of ESLPs. Throughout Europe, there is a large variety in understanding of the concept as well as the availability of different short programs, all with different characteristics, such as size (ECTS) and level according to the European Qualification Framework (EQF). The FernUniversität has been participating in the Erasmus+ project “European Short Learning Programs for Continuous Professional Development and Lifelong Learning”.

Especially in online teaching and in the field of Massive Open Online Courses (MOOCs), so-called microcredentials play an increasing role in addition to the classical degrees. Microcredentials are essentially online certificates (sometimes also called digital badges) that are granted for MOOCs that conclude with an online test. Although they do not represent a full academic degree, they can certainly include academic content. So far, they are more likely to be in the area of continuing education. The main distinction between ESLPs and microcredentials is that ESLPs must be regarded as building blocks to formal degrees of HEIs whereas microcredentials are detached from formal degree studies and are awards, which are smaller than a degree. In formal education, awards can be a credit, a certificate, advanced certificate, a diploma or other awards, depending on institutional or official regulations.

Regarding the participation of FernUniversität at the SLP-Erasmus+ project as well as its expertise in online teaching, the FernUniversität can play an important role in promoting the development of short learning programs within Germany. In this way, it can meet the social need for greater flexibility in the education sector. In the last few years, the FernUniversität has initiated certain

① MICROBOL Desk Research Report, 2020. <https://microcredentials.eu/wp-content/uploads/sites/20/2020/09/MICROBOL-Desk-Research-Report.pdf>.

② E-SLP-Project, 2019. <https://e-slp.eadtu.eu/>.

structural developments to facilitate and promote the development of innovative teaching formats. One important step was the creation of the open learning platform “*offene.fernuni*” that has been launched in 2017. The special feature of this platform is that it enables external participants to take part in online courses at the FernUniversität without being enrolled as a student. Open courses e.g., MOOCs or Open Educational Resources (OERs) can thus be made available via the “*offene.fernuni*”. On the one hand, the platform can be used for internal training. Currently there are various asynchronous courses about online teaching, tools and media didactics. It is managed and administrated by the Coordinating Office for e-Learning and Educational Technology (e-KOO) at FernUniversität, which creates new courses, but also supports teachers and staff in the creation of new content. On the other hand, teaching staff of the University can use the platform to network students on an interdisciplinary basis, to bring different institutions together or to offer further education on selected topics. The platform has also proved to be a great asset in international collaborative teaching projects by providing a learning environment that can be accessed by actors from outside the FernUniversität. Up until now, more than hundred courses have already been created in the last three years. All in all, the platform offers a great opportunity for inter-institutional cooperation and for entering the market of microcredentials and MOOCs. In the coming years it is therefore important to proactively engage into new cooperation and to develop joint offers which are also available to interested parties outside the FernUniversität.

Another step to introduce new offerings besides the traditional bachelor and master’s degree studies has been the creation of new certificate studies at FernUniversität. In the last years, FernUniversität has negotiated with the Ministry for Culture and Science of North Rhine-Westphalia (MKW NRW) about the possibility of implementing and offering a new degree below a bachelor’s degree. In close coordination with the FernUniversität, the Federal Ministry decided that prospective students can obtain an educational level below a bachelor’s degree and should be able to obtain a certificate by studying a certain selection of modules of the undergraduate courses of study. These certain selections of modules should consist of selected basic modules and a corresponding deepening of content—within the framework of the course of study. On completion of these modules, a certificate can be issued. These thematically related courses of study should also be suitable for prospective students who (initially) wanted to refresh their knowledge and skills or who want to make their first entry into academic education within a manageable

framework in order to continue their studies in a degree program subsequently. Similarly, the certificate program could offer a qualified exit for Bachelor students who, for various reasons, do not want to or can no longer complete their studies.

3.3 Strengthening Continuing Education

Most universities in Germany focus on offers for Bachelor and Master Degrees. As mentioned before, further training and continuing education outside the classical study degrees only plays a subordinate role in the HEI system. Some legal regulations also limit the scope of services in this area. Due to its particular student body, FernUniversität is predestinated to be a frontrunner in this field of lifelong learning. The rectorate has therefore decided to give this area a high priority.

In 2019 FernUniversität founded a new subsidiary, the “Institut für wissenschaftliche Weiterbildung GmbH” (FeUW)/Institute for Scientific Training. This has been an important step to create a setting, where innovative educational formats besides formal degree studies can be created and tested. The Institute develops and organizes concepts primarily for vocational preparation and continuing education programs at the academic level to prepare participants for a profession or an examination at the University. On the other hand, the Institute supports the FernUniversität in developing and implementing such programs. In this way, it promotes science and research as well as vocational training. The business form as a limited liability company enables it to act much faster and more flexibly outside the University organization. Scientists at the FernUniversität can support themselves and their further education in a variety of ways and use the GmbH as a platform for their own offerings.

While in recent years, the offerings of FernUniversität concentrated on business education and law, various new courses have been developed within 2019. The Faculty for Psychology developed offerings in continuing education for the first time. They created an offering for “psychology in the law professions” as a certificate program. While schools were closed in the spring, it became clear that most teachers are not well prepared for online classes. For this reason, the Open University of the University of Jyväskylä (JYUOpen), Finland, has created new offers for teachers to support their digital skills. While most offers of the FernUniversität are represented

in the German language, a new course was designed with partners from JYUOpen as well as from Universidade Aberta, Portugal, and the Anadolu Universitesi, Turkey. This new ESLP called “digitally competent teachers”^① is a suitable answer to the challenges that came along with the pandemic.

3.4 The Hagen New Learning Manifesto

The digital transformation (now fuelled by the pandemic) is revolutionizing the world of work. However, the education system is often progressing far too slowly with the necessary change processes. Skills and competencies are still being promoted that are no longer needed in the working world and labor market of the future. By contrast, the urgently needed “future skills” are still not the focus of learning in the educational system. The COVID-19 crisis has highlighted many deficits in the education sector and fuelled the debate on how to shape and implement contemporary adequate concepts for knowledge transfer.

The rector of the FernUniversität in Hagen, Prof. Dr. Ada Pellert, has launched an initiative called New Learning^②. The FernUniversität in Hagen is actively committed to New Learning, because its distance learning system and blended learning model make it a university for lifelong learning and because it researches new educational approaches for the future. The Manifesto’s authors advocate for the visionary concept of New Learning, which understands learning as a central force for guiding transformation processes throughout society. It raises questions about the ways society must rethink learning as “New Learning”, in order to equip learners for life in a digitalized society. How can learning be designed in a way that takes educational justice into account and is networked, self-determined, and prepared for future technologies? Furthermore, it looks into which political decisions are necessary in order to ensure that these changes are successful. The Manifesto offers a forum for networking and exchanging ideas and initiates discussions about areas in which political action is needed. In addition to new digital educational formats and skill requirements, this also includes developing sustainable, cooperative forms of organization and

① Open University, 2020. <https://www.avoin.jyu.fi/en/courses-offered/digcompedu>.

② FernUniversität in Hagen, 2020. <https://www.fernuni-hagen.de/universitaet/hagener-manifest/>.

innovative policies to support learning. Questions of educational justice and equal opportunities play an important role in this context. Ultimately, the goal of the Hagen Manifesto is to create a unanimous political resolve to implement and organize learning processes in our society in a more consistent and targeted way.

4. Conclusion

The COVID-19 pandemic has proven to be a turning point for the self-conception of the FernUniversität. Before, its strategy as well as its goals and ambitions were based on the certainty of being the only state-owned distance teaching university in Germany. However, traditional HEIs have adapted to the challenges of the pandemic and implemented online and distance teaching as well. Even though this was implemented on short term and (mostly) without deeper concept, those HEIs possibly have experienced that distance teaching on a basic level is quite feasible and brings new opportunities. The pandemic has thus functioned as a catalyst to speed up digitalization and innovation processes in the HEI sector.

For the FernUniversität, the change processes triggered by the pandemic mean that it must dynamically adapt its strategic orientation to the developments in the HEI sector in both Germany and Europe. The core of its self-image has always been and will further be the focus on its special student body. However, this has different implications for the future than it had in the past. Our main goal is to focus on the needs of the students. On the one hand, constantly critically questioning and further developing teaching concepts with the help of technical innovations is one key aspect. On the other hand, we explore new ways to strengthen our brand as a lifelong university. The increasing importance of lifelong learning in society means that the younger generations in particular have internalized its significance and will fall back on opportunities for further education that are compatible with their commitment to a professional career or to family. Therefore, the FernUniversität will meet the social and individual needs of society with new content and formats in addition to the traditional degrees.

Not only in Germany, but worldwide the school and university education are subject to constant

development and innovation. In addition to new skills, competencies and content that are being conveyed, new teaching formats and modes of teaching are also being rethought and reshaped. New formats open up new forms of cooperation and can significantly change the way we learn. Against the background of social changes and changing demands of the labor market, these new formats play an important role in enabling and supporting lifelong learning.

The pandemic has shown that public funding needs to be invested in digitalization processes in education on all levels far beyond the current COVID-19 emergency. Digitalization may be a driving factor in enabling new forms of learning and teaching and new forms of international collaboration. In order for these processes to be further developed as long-term processes, the institutions, governments, and education ministers should push for strong digitalization agendas on national and continental level. The EU is setting the stage with its digitalization agenda for diversity and inclusion. The COVID-19 pandemic may be unique for its global scope and its effect in prosperous countries, yet it is neither the first epidemic nor the only catastrophe in the last 50 years on this planet that has led to dramatic consequences. As educators around the globe, we need to work together in order to develop resilient educational systems for the future as proposed by the DAAD and the International Council for Distance Education (ICDE). It is our job to make use of the opportunities digitalization offers for education rather than widening existing global inequalities. Let's get started.

References

- Deutscher Akademischer Austauschdienst, 2020. International virtual academic collaboration (IVAC). [2020–11–24]. <https://www.daad.de/de/infos-services-fuer-hochschulen/weiterfuehrende-infos-zu-daad-foerderprogrammen/ivac/>.
- Digitale Hochschule NRW, 2020. Ministerium für kultur und wissenschaft des landes nrw. [2020–11–24]. <https://www.dh.nrw/kooperationen/HD@DH.nrw-62>.
- E-SLP Project, EADTU, 2019. European short learning programmes. [2020–11–24]. <https://e-slp.eadtu.eu/>.
- European project MICROBOL: desk research report, 2020. Micro-credentials linked to the bologna key commitments. [2020–11–26]. <https://microcredentials.eu/wp-content/uploads/>

- sites/20/2020/09/MICROBOL-Desk-Research-Report.pdf.
- FernUniversität in Hagen, 2020. E-Teaching-Zertifikatsprogramm (E-T-Z). [2020–11–15]. https://www.fernuni-hagen.de/arbeiten/personalthemen/fortbildung/zertifikatsprogramm/e_teaching_zertifikat.shtml.
- FernUniversität in Hagen, 2020. Das hagerer manifest zu new learning. [2020–11–29]. <https://www.fernuni-hagen.de/universitaet/hagerer-manifest/index.shtml>.
- Hochschulforum Digitalisierung, 2020. Community of practice “starthilfe für das corona-semester – fernuni-expert*innen unterstützen” startet. [2020–11–25]. <https://hochschulforumdigitalisierung.de/de/news/community-of-practice-starthilfe-corona-semester-fernuni-hagen>.
- HRK Hochschulrektorenkonferenz, 2020. [2020–11–26]. <https://www.hrk.de/themen/hochschulsystem/covid-19-pandemie-und-die-hochschulen/>.
- HRK Hochschulrektorenkonferenz, 2020. HRK: sommersemester 2020 weiter als online-semester durchführen - rückkehr zu präsenzlehre nur schrittweise möglich und sinnvoll, media release. [2020–11–24]. <https://www.hrk.de/presse/pressemitteilungen/pressemitteilung/meldung/hrk-sommersemester-2020-weiter-als-online-semester-durchfuehren-rueckkehr-zu-praesenzlehre-nur-schri/>.
- Middendorff E, Apolinarski B, Becker K, et al., 2017. Die wirtschaftliche und soziale Lage der Studierenden in Deutschland 2016 Zusammenfassung zur 21. Sozialerhebung des Deutschen Studentenwerks durchgeführt vom Deutschen Zentrum für Hochschul- und Wissenschaftsforschung. Berlin: Bundesministerium für Bildung und Forschung(BMBF).
- Open University, 2020. Digitally competent educators. [2020–11–26]. <https://www.avoin.jyu.fi/en/courses-offered/digcompedu>.
- Stifterverband für die Deutsche Wissenschaft e.V. 2020. [2020–11–15]. <https://www.stifterverband.org/diversity-audit>.

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS



Josep A. Planell

Universities must evolve, redefining their role in society to become more open institutions, with stronger connections with the wider society. At the UOC, we believe this transformation will be achieved by universities becoming knowledge hubs.

Prof. Josep A. Planell received his PhD. in Materials Science from Queen Mary University of London in 1983. He is a full professor since 1991 in Materials Science and Metallurgy. He works as the President of the Universitat Oberta de Catalunya since 2013. Before that he was the Director of the Catalan Bioengineering Institute. He was a principal investigator for 13 national projects, 3 networks and 2 EC-funded projects (as coordinator). He is the author of more than three hundred research papers in indexed journals.



Universitat Oberta de Catalunya
<https://www.uoc.edu/portal/en/index.html>

The UOC, a Distanceless University

Josep A. Planell, President of the Universitat Oberta de Catalunya, Spain

1. The Beginnings of the UOC: the Right Question

The Universitat Oberta de Catalunya (Open University of Catalonia, UOC) was created in Barcelona in 1995 to provide access to higher education to anyone willing to learn, improve and upgrade, regardless of their professional or personal background and location. The UOC's founders believed that the use of technology and the incipient Internet would enable them to re-engineer education and accomplish this goal.

At a time when the World Wide Web had emerged only two years earlier, smartphones existed only in science-fiction, and Professor Manuel Castells was probably still writing the first volume of his seminal trilogy on the information age (*The Rise of the Network Society* was published in 1996), the UOC was a pioneer provider of exclusively online education. Since its beginnings, it has been a benchmark in the emergence and development of e-learning, taking advantage of constant technological advances. In the words of its first president, “the UOC was the first university in the world to invent the idea of a virtual campus. We wanted to break down the limitations of space and time through new technology. [...] The word ‘distance’ has a negative connotation. Distance separates. It never even occurred to us to call it a ‘distance university’. We called it an ‘open university’. Our first motto was ‘the university without distances’.”^①

The Catalan authorities were unanimous in their support of the establishment of this distanceless university. According to its act of incorporation, the UOC's stated purpose is to “provide access to university education to all those who have the normative capacity to access it, with no limitation

① Pernau, G. (31/3/2011) Interview with Gabriel Ferraté; Walk In magazine.

other than merit”. Throughout its 25 years of expertise, the UOC has become a benchmark for online higher education, attracting increasingly diverse student profiles.

The UOC is a university that renders a public service but is organized in accordance with private management principles. It was created as a not-for-profit private foundation, a somewhat unusual formulation in the Spanish university environment. The legal status of the UOC as a private foundation allows for greater management independence, enabling the University to swiftly adapt to changes in the environment. Moreover, the faculty and staff are not public servants.

Beyond its mission to be a distanceless university, the success of the UOC founders’ vision lies in its commitment to using the Internet to relate to and communicate with students. Because the technology in 1995 was still too primitive for image or video transmission, the founders were able to formulate and respond to the right question: how can technology enable us to do what we are unable to do by other means? This was the starting point for the UOC’s learning model, a model that has evolved and adapted to different situations over the course of the last 25 years, and a model in which the student is at the centre of the learning process, learning by doing. In this model, it is understood that technology is absolutely necessary, but that alone it is not enough.

2. The UOC’s Quality Online University Model

The UOC’s proposal represents a disruptive change in terms of the incremental evolution of the classical concept of university.

To use an analogy, a wireless telephone is an incremental evolution of the desk phone model, while a smartphone is a disruptive innovation. In fact, the smartphone is a total re-engineering of the telephone. In the same way, the UOC pedagogical model is a re-engineering of the traditional face-to-face model. An incremental evolution of the face-to-face model would be the videotaping of lectures or virtual meetings, in which the teacher taking the active central role transmits their knowledge to the passive students. Some online education programmes are even inclined to reward the synchronous presence of students watching the teacher’s performance. The

re-engineered disruptive UOC educational model takes a completely asynchronous approach. The central learning activity is carried out by the student following a process of learning by doing. Students have access to the learning materials, to a course instructor who monitors their activities in the online classroom and evaluates their progress through continuous evaluation tasks, and to peer-to-peer collaborative assignments and discussions on the Virtual Campus.

The UOC's model consists of three dimensions, all of which are indispensable to the learning process at the UOC: the learning model, the technological model, and the organizational model.

The UOC's hallmark is its unique learning model, created with the goal of offering an effective solution to the educational needs of people engaged in lifelong learning, and optimally leveraging the potential offered by the Internet for learning in a flexible environment. The pedagogical methodology is based on three basic elements: learning resources and activities, continual guidance, and personalized support from teaching staff and peer collaboration.

Students learn by doing, using a series of multi-format resources provided at the beginning of the course. These consist of the materials, environments and tools needed to engage in the learning activities and their evaluation (social tools, multimedia resources, interactive materials, advanced communication systems, immersive environments, and access to content and learning through mobile devices). With the focus on participation and collective knowledge building, the model seeks to balance students' individual and cooperative involvement, and is open to students' formative, social and work experience. Students become part of the virtual community, where they participate in peer-to-peer collaborative work in networked learning with others.

At the UOC, teaching goes beyond the mere transfer of content. Three faculty profiles work together to ensure a quality learning process: the coordinating professor, who designs the course, guarantees its quality and coordinates the course instructors; the course instructor, who guides and evaluates students' learning as they progress through their courses; and the tutor, who guides students in their choice of a personalized academic pathway and accompanies them throughout their learning experience at the UOC.

The environment in which all these elements converge and interact is the UOC's Virtual Campus, which provides access to the online classrooms. The life of the whole university community takes place within the Virtual Campus. Students can find their course instructors, tutors and fellow students there, as well as their activities, materials and tools for learning.

As for the UOC's technological model, the UOC has opted for a hybrid model that combines the tools and resources available on the market with others developed in-house, and seeks to add value to the University's teaching, research and management activities. Here technology has been shown to be at the service of a pedagogical model centred around students' activities and learning.

The technological platform in use at the University incorporates the best technologies currently available. It consists of a combination of proprietary software developments and market software solutions working together according to a cloud architecture model. While the software that supports processes such as marketing, finance management, HR, or collaborative remote work is based on cloud market solutions, the academic management system, Virtual Campus and classrooms are proprietary developments.

Learning and technological models would not be possible without the organizational model that makes the whole University work. The governance that facilitates such a digital organization is key, ensuring that planning takes place, allowing technology to take root in the University's management system, and assuring the quality of the learning processes. Reputable qualifications are important for university management and faculty members alike. Another key concern of the UOC is that the academic support teams have a working understanding of how online learning works and are able to work with the academics in a multidisciplinary manner.

The UOC's organizational structure, divided into seven faculties, two research centres, one innovation centre, the Doctoral School, and the university administration, reflects the purpose of the University, whose mission states that "[The UOC] offers people lifelong learning to help them and society advance, while carrying out research into the knowledge society". At the UOC, traditional disciplines are addressed from a digital perspective. Fields such as psychology, law, politics, communication, education, and healthcare are studied with a digital approach by the

academic staff of the faculties and the research and innovation centres.

The main characteristics of the seven faculties are described below:

- The Faculty of Arts and Humanities promotes the use of new technologies to provide a global and critical understanding of social and cultural reality from the integrated and complementary points of view of the different disciplines. Courses are cross-disciplinary and incorporate a range of subjects (art, history, philosophy, literature, social sciences) to ensure that students acquire the tools to understand contemporary society and culture, and the methodological, analytical, information-handling and management skills needed to advance in their professional careers.
- The Faculty of Computer Science, Multimedia and Telecommunications aims to provide a quality, practical and up-to-date education to anyone interested in technology, through research and collaboration with ICT companies and institutions.
- The Faculty of Economics and Business strives to be a benchmark for online business education, both locally and globally, contributing to the development of people's skills throughout their lives, thus enabling them to act as leaders of change and social commitment and help businesses and organizations to adapt to contemporary challenges.
- The Faculty of Health Sciences seeks to integrate different aspects of clinical practice, healthcare management and research, based on the questions currently being asked by society, with the focus on health promotion, disease prevention, quality of life optimization and community well-being.
- The Faculty of Information and Communication Sciences seeks to generate new knowledge in the fields of information and communication and transfer this to society through the training of people throughout their lives, the dissemination of research and the diffusion of information.
- The Faculty of Law and Political Science offers a wide range of courses in the fields of law, political science, criminology, governmental administration and international relations.
- Finally, the Faculty of Psychology and Education Sciences offers training based on the latest knowledge and research in the department's areas of specialization. Subscribing to the belief that students are capable of transforming their own realities, the faculty strives to engage in teaching, research and innovation at the highest possible levels.

Research and innovation have a crucial focus at the UOC. Among its two research centres, the Internet Interdisciplinary Institute (IN3), created in 1999, specializes in the study of the Internet and the effects of the interaction between digital technologies and human activity. Eleven renowned research groups are based at the centre, conducting interdisciplinary research on a wide range of topics. In 2017, the UOC set up the eHealth Center (eHC), a transdisciplinary research centre to educate professionals and citizens in the use of technologies and empower them to lead a paradigm shift in health. The eHC is people-centred and uses research, education and advocacy to contribute to social progress and well-being. Besides its two research centres, the eLearn Center (eLC) is the UOC's centre for innovation and learning transformation. Its goal is to foster applied research in e-learning, using data obtained within the institution itself, either from users or from sections or processes. The eLC promotes innovation in this field and transmits the value of e-learning as a fundamental element of the University's identity, both inside and outside the institution, working with other leading experts in this field from around the world to share innovative educational experiences. And last but not least, the Doctoral School is the unit responsible for organizing and coordinating doctoral courses at the UOC, acting as a reference framework for the different doctoral programmes to ensure they are developed according to common quality standards.

The administration is a key stakeholder in the governance of the University. Proper coordination between academic staff and administration is crucial for the preservation of the UOC model. The administration ensures the application of the educational model, the quality of the services offered, and the proper functioning of the University. The teams in the administrative departments are organized into units focused on specialist areas of activity. These units are then organized within wider areas and aligned with the University's objectives.

3. 25 Years of Expertise

3.1 The People

In the 2019/2020 academic year, the UOC had over 77,500 students and 85,700 graduates, 20,000

of whom hold more than one degree from our institution.

UOC students have a unique profile. Most of them are employed (82%), with highly diverse socio-demographic characteristics. The number of female students at the UOC has always been higher than the average in the Spanish university system, and in the 2016/2017 academic year, for example, 62% of all students were women. When we disaggregate these data by area of study, the proportion of women in social sciences degrees is much higher, going down to just under 12% in engineering degrees. UOC students are mostly between 25 and 40 years old (39%), which explains the fact that most of them have previous professional experience (over 60% work in the private sector). Our average student age, far from the 18-year-olds of traditional universities, is therefore a unique attribute of the UOC.

In terms of motivation, UOC students are people who strive to further their education throughout their lives, or have a particular interest in a specific field of knowledge. Students generally choose university courses to acquire new skills and knowledge; they tend to have previous education and half of them study to broaden their knowledge. Compelled to balance work and study, time management becomes a priority for these students, who will also need to supply critical thinking, a high level of cognitive demand, and proactive behaviour during the learning process.

As for inclusivity and promotion of equal opportunities, several initiatives have been taken. From its beginnings, the UOC has been committed to the social inclusion of people with disabilities. For instance, over 1,700 current UOC students have a certified disability of 33% or more. The UOC also offers a scholarship programme for refugees in collaboration with several NGOs: four calls have so far been published since the 2016/2017 academic year, from which 105 people from the Middle East, the Andean region, Central America and North Africa have benefited. The programme includes specialization courses, language courses and seminars, as well as mentoring of student, alumni and university team members.

The University's teaching staff consists of permanent academics and researchers (nearly 500) and instructors (over 4,700) responsible for the online classrooms (almost 9,000) through which students follow courses (about 3,000) on the different degree programmes. The technical and

administrative team (over 600) plays a fundamental role in coordination with teaching staff. A course cannot be designed without the collaboration of the technical and administrative staff, particularly in terms of the technological requirements. Multidisciplinarity, coordination and mutual governance are characteristic of the UOC's operational approach.

3.2 Course Offering

The UOC offers a range of courses to suit an array of personal and professional phases of life, and one that is constantly evolving in line with the changing needs of society. The UOC's course list for the current 2020/2021 academic year consists of 87 "official programmes" (in Spain, these are degrees which are nationally approved and regulated by the ministry responsible for universities): 25 bachelor's degree programmes, 54 master's degree programmes, and eight PhD. programmes. We also offer approximately 700 UOC-certified courses. These are courses or degrees designed and organized by the University, usually for specialization or vocational purposes, including foreign language learning.

In addition, the UOC offers bespoke training for companies and corporations. Through UOC Corporate, the University provides specific training programmes to companies to promote staff development, foster transformation and improve competitiveness.

3.3 Research and Innovation

Research is an essential part of the UOC's mission. Since the UOC's strongest academic areas are technology and social sciences, much of the research at the UOC has a clear focus on the interdisciplinary fields where technology and human and social sciences converge. More specifically, most of the UOC's research, knowledge transfer and innovation activities run along three main avenues: Internet and society; e-learning, or education and ICT; and e-health, or ICT applications in the health field. Three centres, the IN3 (Internet Interdisciplinary Institute), eHC (e-Health Center) and eLC (e-Learn Center) and fifty R & I groups distributed across the University are involved in research, technological transfer and innovation activities.

Research at the UOC has experienced significant growth in the last few years. The CYD Ranking^①, which uses performance indicators to evaluate Spanish universities, ranks the UOC as the leading online university in research. Since 2014, the University's research and innovation workforce has grown by over 31%, going from a headcount of 387 in 2014 to 510 last year.

Significant growth can also be observed in terms of scientific output. The number of published scientific articles produced by the UOC has gone from 275 in 2014 to 472 in 2019, showing an increase of over 70%. The trend is also positive for competitive external research funding, showing a steady increase from 2.1 million euros in 2014 to 4.2 million euros in 2019.

In 2015, the UOC created the Hubbik initiative to promote entrepreneurship, open innovation and support for knowledge transfer at the UOC. To achieve these objectives, a collaborative ecosystem was set up with the support of a network of external collaborators with expertise in the field of entrepreneurship and innovation. A Hubbik-supported project can be launched by any member of the UOC community, whether they are a student, alumni, faculty, or a technical and administrative staff member.

Invergy is a UOC company that invests in spin-offs and start-ups in the education and ICT sectors linked to the University's areas of expertise for the purpose of transferring knowledge generated within the UOC community to the wider society. These entrepreneurial initiatives are rooted in the innovative nature of the university environment. Invergy's investees include BCN Resol^②, a start-up that has developed two ICT solutions to detect and manage conflicts in schools and in the business environment; eQualiment^③, a digital platform for managing and monitoring the distribution of food donations to families experiencing financial hardship; Immersium Studio^④, a UOC spin-off specializing in applying immersive technologies—virtual, augmented and

① <http://www.rankingcyd.org/index>.

② http://www.b-resol.com/index_en.html.

③ http://www.equaliment.org/Home/_H4QS29qxa72Rschfpl7NwebAbjHFuGq0mHjDFEIZwYd-TY45raUS79A.

④ <https://immersiumstudio.com/sobre-immersium/?lang=en>.

mixed reality—in education, culture and tourism; Minushu^①, a start-up specializing in creating storytelling experiences using augmented and virtual reality; and Senior Domo^②, a remote assistance care system for older people, is a system that functions both inside and outside the home, and incorporates an App, a smart watch and remote detection sensors able to detect potential emergency situations such as accidents, inactivity or disorientation on the part of the watch wearer.

4. A Global Mission Implies Global Responsibility

Manuel Castells, creator of the IN3, well-known sociologist and eminent UOC professor, said, “Inequality is reproduced through education and eradicated through education.” These words perfectly summarize the philosophy of institutions like the UOC, which seek to have an impact on all strata of society, but especially among the less fortunate.

The United Nations Assembly’s approval of the 2030 Agenda for Sustainable Development in 2015 provided the UOC with the opportunity to align its strategy with the UN Sustainable Development Goals (SDGs). Indeed, this was the first international political agenda to include access to higher education as one of its educational priorities (SDG 4), posing a considerable challenge to countries around the world and an incentive for universities to provide quality options for all, both prospective full-time students and lifelong learners. Because, despite the new possibilities offered by the growth of the Internet and ICTs, access to education and knowledge is still subject to considerable levels of global inequality. The UOC’s globalization and cooperation strategy is focused on planning endeavours and projects aimed at bridging the social and educational divide.

Firstly, quality online learning contributes to increasing the reach of higher education. Demand for higher education continues to be a growing trend around the world. In fact, an OECD report

① <https://minushu.com/>.

② <https://www.seniordomo.es/>.

published in 2009 estimated that the number of university students worldwide—100 million in 2009—would reach 400 million by 2030. Meeting such enormous demand will undoubtedly be a complicated endeavour and, though demand will clearly grow at different rates in different countries, building large on-site facilities will be extremely costly, not to mention the even more significant economic investment of training sufficient numbers of competent teachers. In this regard, quality online education, with its ability to handle large volumes of students, can make a positive contribution to meeting the demand for growth.

A good example of this is the UOC itself, currently a global university with students living in 142 countries around the globe. More than 6,500 UOC students—8% of the student body—live outside Spain. As for the distribution of UOC students around the world, the Latin American region stands out, with Colombia and Ecuador leading the way in terms of student numbers (15% and 7%, respectively). Although an important part of the UOC student body consists of Spaniards living abroad, the number of students of other nationalities studying at the UOC has been steadily increasing over the last four years.

Secondly, quality online education provides the opportunity to broaden the diversity of the student profile by guaranteeing equal access to higher education: to those starting out on a bachelor's or master's degree or a specialization course, those looking for a second chance, and those who want to upgrade; to those with all the time in the world, and those who need to combine their studies with family and work responsibilities. Online education, such as that offered by the UOC, is chosen by student profiles that are less well represented at brick-and-mortar universities. This is due to the nature of its online learning model as well as to specific policies intended to focus attention on certain groups that, until recently, have been underrepresented in the university system.

Finally, quality online education promotes the internationalization of higher education institutions and university systems, facilitating the development of more global programmes and the existence of more diverse classrooms. This is one of the elements that drives the UOC: promoting the training of global citizens throughout their lives. Since 2016, the UOC has promoted online mobility programmes with a number of universities around the world to train professionals and

citizens in global and social competences. These programmes have already welcomed more than 2,000 students from numerous Latin American higher education institutions to the UOC's Virtual Campus. Online mobility is a mechanism for the exchange of international educational experiences whereby students from universities, whether physical or virtual, can take a course at another university in a virtual modality, thus learning about new digital environments and exchanging experiences with students and teachers of other institutions, while strengthening their skills in information technology and knowledge management.

Ensuring quality online education has a global dimension, too. For that reason, in recent years the UOC has been working with different universities and higher education bodies from around the world, collaborating in the task of incorporating and accrediting quality online higher education. In this respect, the UOC offers a Master's Degree in Quality Management and Evaluation in Higher Education in conjunction with the Catalan University Quality Assurance Agency (AQU Catalunya).

5. The COVID-19 Outbreak and Its Implications for Higher Education

The global health crisis generated by the COVID-19 outbreak has led to a systemic crisis on a global scale that has forced education to reimagine itself. In March 2020, schools and universities around the world were closed, and an emergency remote teaching approach was set up in many communities.

The educational emergencies generated by the pandemic have been resolved in part thanks to technology. However, these temporary solutions have revealed tensions in our traditional education systems, because educating in a virtual environment is more than a merely technological problem, but one which requires planning, involvement and complicity. The willingness of the institution to work online is not enough; rather, a whole infrastructure of governance and management support is needed for this form of education to take place. We have also seen that the digitalization of higher education has had an extremely unequal impact and led to the emergence

of significant gaps that enhance these socio-economic, infrastructural and educational inequalities.

The efforts made to overcome this emergency have been immense and it must be recognized that university staff and students all over the world have done their very best to adapt to the circumstances. Collaboration has made a key contribution to these efforts.

The open dissemination of knowledge has proven to be more important than ever. One example of such collaboration is the web portal *Conectad@s: la universidad en casa*^①, an initiative promoted by the Spanish Ministry of Universities and Crue Universidades Españolas, and designed by the National Distance Education University (UNED) and the UOC, with the collaboration of all Spanish universities. This platform was created in March 2020 with the aim of supporting teachers, students and society in general by providing them with static content and useful resources for online training, in order to deal as effectively as possible with the closure of the physical educational space caused by the pandemic. The countries of the Ibero-American region have acted along similar lines. Thus, the UOC has also contributed resources to the support portal for the Peruvian university community, *Conectados*^②, backed by the Ministry of Education of the Government of Peru.

For the purpose of sharing our knowledge beyond the static content we were able to make available to the educational community through the initiatives mentioned previously, in April 2020 the UOC launched its emergency remote teaching^③ programme, a series of 24 live online seminars, aimed at Spanish-speaking teachers in any educational system. With over 34,000 attendees from 70 countries between April and June, the series contributed to the adaptation to remote teaching of more than 9,900 teachers, mainly from Latin American universities. To date, it has received more than 135,000 views in total.

Moreover, a small number of universities, including the Universidad del Norte (UniNorte) in Colombia, have been assisted in their digital transformation with support and advice from the

① https://www.uned.es/universidad/inicio/uned_uoc_solidaria.html.

② <http://www.minedu.gob.pe/conectados/>.

③ <https://www.uoc.edu/portal/en/coronavirus/index.html>.

eLC. The aim of this project with UniNorte is to make quality online higher education more accessible to people in Colombia. Similarly, the UOC has trained 150 teachers from Chile's Duoc UC, an accredited, non-profit private training institute that provides technical and professional programmes to over 100,000 students throughout the country, helping it to roll out its own e-learning model.

6. The Next 25 Years of the UOC

6.1 More Open

Universities must evolve, redefining their role in society to become more open institutions, with stronger connections with the wider society. At the UOC, we believe this transformation will be achieved by universities becoming knowledge hubs.

Knowledge is one of the key elements of achieving the 2030 Agenda's Sustainable Development Goals: the knowledge needed to address the SDGs, and the knowledge to be transformed into the anticipated local and global solutions. As a university, knowledge is our main asset, and that is why at the UOC we are committed to ensuring that the knowledge generated at the University is open to all, has the maximum positive impact, and allows for more rapid progress towards sustainable development.

With this in mind, the UOC launched the Open Knowledge Action Plan 2019–2030^① to transform the University into an open knowledge hub whose resources will help society to find solutions to current global challenges. This action plan has been long in the making. Since the approval of its Open Access Institutional Policy back in 2010, the University has been developing initiatives for the purpose of making its academic output available to all. One such initiative is the institutional digital repository led by the UOC Library, the aim of which is to collect, store, preserve and allow access to the intellectual production of the UOC.

① https://www.uoc.edu/portal/_resources/EN/documents/coneixement-obert/pla-accio-coneixement-obert.pdf.

The UOC's Open Knowledge Action Plan is based on the idea of open science. It is also associated with the concept of responsible research and innovation (RRI) and open educational resources. It focuses on nine main working areas, six of which are thematic, and three cross-cutting areas: training, communication, and awareness raising. The first two thematic areas—open-access publications and FAIR data—refer to research and the promotion of accessible publications to ensure that research data meet the principles of findability, accessibility, interoperability, and reusability (FAIR). The third area goes beyond scientific output and refers to open learning. The fourth and fifth working areas—open innovation and openness to society—promote open innovation as well as the co-creation of knowledge through participatory processes to address societal challenges with a more inclusive focus. The sixth and final thematic working area—research evaluation models—was added to motivate and support all these changes, and promote reflection on the way in which we evaluate research.

Two years into our implementation of the Open Knowledge Action Plan, the facts and figures demonstrate the UOC's firm commitment to sharing the knowledge generated at the University. The digital repository, for example, provides free access to over 2,000 academic papers, 150 doctoral theses, and 1,600 learning resources; and the UOC is a signatory to the San Francisco Declaration on Research Assessment (DORA), an international movement to promote a new system for the evaluation of research based on scientific quality. However, more needs to be done in the coming years to turn these ideas into a cultural shift that goes beyond providing open access to academic publications, and incorporates a broad definition of what making the UOC into a truly open university means.

6.2 More Responsible, Equal and Diverse

Redefining the role of universities in society also requires a critical analysis of institutional policies and practices concerning diversity and equality within the community, as well as a corporate responsibility to the environment.

At the UOC, we believe that higher education is a universal right that should be accessible to all

under equal conditions. We therefore strive to ensure effective inclusion, which means making the Virtual Campus accessible and adapted to a range of different needs, monitoring students' learning and providing additional support to help them to successfully complete their learning process, tackling gender and ethnic discriminations in the university environment as well as income inequalities through scholarships and online mobility programmes. By diversifying the student profiles within a classroom, we allow students to learn global and intercultural skills from the relationships they form with their classmates, who come from a diversity of backgrounds.

The next big step will be to incorporate global ethical commitment into all bachelor's and master's degree programmes at the UOC to encourage students to act honestly and ethically, respecting human rights and the environment, both in their studies and at work. This new multidisciplinary competency will be present in all programmes by the end of 2022, subsequent to a period of specific training for all UOC faculty staff, which will help them identify whether this competency is already included in their programmes and make the appropriate changes if not.

6.3 More Lifelong Learning

Significant secondary trends have stirred economic, political and social relations and gained traction during the pandemic. Issues such as globalization, environmental management and digitization are transforming the labour market and hence the professional profiles that interact within it. This reality intensifies society's expectation of universities' ability to adapt individuals and organizations to this evolving socio-economic scenario. Universities must contribute to the transition from the industrial society and finalistic job conception towards the information society, in which citizens prepare for jobs and even a world that may not yet exist. This means that, in terms of labour insertion, universities must prepare citizens to take the right decisions at the right time in terms of their future occupation.

The UOC is fully aware that its commitment must be, not only to generate and transmit knowledge, but also to extend its support for the employability of citizens and the competitiveness of organizations. To this purpose, the UOC has generated new knowledge dynamics designed to produce social innovation and labour insertion.

For the promotion of employability, the UOC incorporates a democratizing and transformative conception of education from three perspectives: temporal, systemic and competence-based.

From the temporal perspective, a person's ability to maintain quality job insertion is a continually changing process throughout their life. In our contemporary scenario, a finalistic conception of education no longer makes sense. The challenge of university is to provide people with sufficient tools to be able to make the right decision at the right time. To this end, the UOC has developed a live portfolio of diverse training programmes that allow students to design and follow their own personalized, flexible, stackable and hybrid paths according to their own personal learning cloud.

In terms of the systemic perspective, the role of the university within a complex ecosystem of knowledge production and dissemination is its facility to connect knowledge nodes to generate prosperity. From this perspective, the UOC maintains different systemic connection strategies with its alumni, the entrepreneurial community, companies and third-sector organizations in order to promote employment and well-being.

From a competence-based perspective, in its learning processes the university must promote the acquisition of technical and professional skills alongside the development of critical and self-critical civic consciousness. To do this, the UOC trains, evaluates, and certifies a set of multidisciplinary skills, allowing the student to be aware of their own competency development through the evidence of a personal portfolio.

This new approach to the promotion of community prosperity through talent development and labour insertion requires universities to redefine strategies, dynamics, skills and structures. To respond to this challenge, the UOC has adapted its academic and organizational structure with the creation of new departments and faculty responsibilities.

7. The Future

ICT in general and the progressive digitalization of our society has also affected higher education, even before the COVID-19 outbreak. On the one hand, we have seen how strong players coming from different fields see the growing education demand as an important business market where online learning methodologies can become a relatively cheap and efficient tool to satisfy such demand. Education as a commodity may become a profitable business controlled by the laws of markets. On the other hand, the populism outbreak and the pandemic of fake news circulating through Internet and social networks should alert on the role that education providers should play. In front of such possible future scenarios, a more active and strategic role of universities becomes pivotal. Universities are recognized as for a guided by rationality, development of sciences and democratic debate of ideas. Universities have the capital role to educate citizens on free and critical thoughts and social responsibility. In the era of information, universities will have to adapt to keep playing these roles becoming large knowledge hubs where students and citizens will find a space where human values are preserved and defended. The time has come for a multilateral collaboration between universities that envisions the creation of knowledge societies and takes sides in the face of global challenges—economic, social, and environmental. This collaboration must promote different approaches to thinking—critical, digital, computational, transdisciplinary—in a free and open exchange of knowledge, irrespective of its origin; and assimilate the idea that universities have a responsibility to the societies of which they are a part. At least, this is the path through which at the UOC we want to move towards the future.



Ojat Darojat

The COVID-19 pandemic has been a challenge as well as an opportunity for UT as an open and distance higher education institution. In line with the emergence of many universities implementing e-learning and distance education, UT embraces them as partners to work together in overcoming problems related to student teaching, material services, student learning supports, and student examinations.

Prof. Ojat Darajat received his PhD. in Curriculum, Theory and Implementation in Simon Fraser University, 2013, and received his Master of Business in LaTrobe University, Australia, 2000. He serves as the Rector of Universitas Terbuka Indonesia since 2017. He is the President of Asian Association of Open Universities (2019–2021). He is also the Focal point of ICDE Quality Network for Asian Region (2017–2020). Dr. Darajat worked as the Chairman for the Development of Learning Materials, Examination, and Information System, UT Indonesia (2016–2019). He was awarded Japan Indonesia Presidential Scholarship by the World Bank (2010–2013). In the past 5 years, he published 12 papers in the field of open and distance education.



Universitas Terbuka
<https://www.ut.ac.id/en>

Optimizing Online Learning Services for Open and Distance Learners: Universitas Terbuka's Opportunities During the COVID-19 Pandemic

Ojat Darajat, Rector of Universitas Terbuka Indonesia; Lidwina Sri Ardiasih

Abstract

The Corona Virus Disease 2019 (COVID-19) pandemic has created shockwaves across the globe influencing all aspects of life, including education. The pandemic forced schools to divert their learning process from face to face to online mode within limited resources and in a very short time due to the school closures. Consequently, teaching and learning from home are becoming common practice for students from different educational levels. However, this situation has provided an opportunity for all to reflect on how to maintain quality higher education and ensure equitable access for all. The Open University (Universitas Terbuka, UT) with its history of distance learning has been ready to overcome the issue of COVID-19 since it has applied open and distance learning (ODL) systems for more than three decades. The pandemic situation requires UT to make significant adaptations and modifications to several learning services for students. This paper aims to describe the way UT has positively responded to the pandemic by optimizing its online learning services for students and society. Those services include the adaptation to delivering learning materials, student's learning supports, and examinations. Additionally, UT also meets the challenges in overcoming the pandemic crisis by networking and partnerships among UT as well as other educational institutions and companies in terms of providing online learning supports for students as well as to ensure students, particularly in higher education can continue their learning process.

Key Words

online learning services; open and distance learners; UT's opportunities

1. Introduction

The spread of COVID-19 throughout the world has increased rapidly. Since it has infected millions of people living in more than 200 countries, the World Health Organization (WHO) has designated the virus as a global pandemic. As of November 2, 2020, Indonesia was in nineteenth position in the world with a total of 412,784 coronavirus cases with 341,942 have recovered, and 13,943 patients died (CNN Indonesia, 2020). In this country, the impact of COVID-19 was officially announced by the President of the Republic of Indonesia on March 2, 2020, when the case of the first patient of COVID-19 in Indonesia appeared. In this regard, the Indonesian government issued a Circular of the Director General of Higher Education of the Ministry of Education and Culture of the Republic of Indonesia Number 1 of 2020 regarding the transmission status of COVID-19 from the Public Health Emergency of International Concern to Pandemic status declared by WHO. This situation has a direct impact on all sectors of life, such as economic, social, and education.

On March 9, 2020 the Ministry of Education and Culture has issued a regulation addressed to heads of schools and universities to implement working from home and learning from home. One of the points of the policy is conducting distance learning in accordance with the conditions of their respective universities and advising students to do learning from home with online learning both synchronous and asynchronously, through various platforms. Highlighted from WHO, since pandemic has replaced all academic activities and face-to-face (F2F) lectures in class with virtual learning, the overload school-work has changed onto various online platforms which probably help students manage their disturbed academic lives (Lautenbach et al., 2020). As the result, e-learning has significantly grown as an educational tool just like other technology which has developed.

UT with its history of ODL system has shown its readiness to overcome the issue of COVID-19 since it has applied the system for more than thirty years. Currently, UT has provided services for more than 300,000 students all over Indonesia and in various parts of the world (Universitas Terbuka, 2019) and consequently e-learning is the appropriate mode of learning for its students.

One of the learning management systems (LMS) which is most widely used as ICT-based educational tools is the modular object-oriented dynamic learning environment (Moodle) which supports an extensive set of educational features, such as interaction, feedback, conversation, and networking. Moodle has provided many features which extremely customizable core and can be accessed in a web or application (DOCS, 2019). Furthermore, regarding its functions, Rice (2011) states that Moodle is in line with the Moodle design principles which were created to support the Social Constructionism learning style, which promotes interaction in the learning process. Therefore, Moodle is adopted as the main learning platform by UT.

Based on the background, this study then aimed at describing how distance education specifically online learning services becoming a strategic issue in Indonesia during the COVID-19 pandemic. Besides, this article also explores UT's actions in developing its online learning services for students and society, such as providing students with various digital learning materials, optimizing online learning supports, namely asynchronous tutorials (tuton) as well as synchronous web-based tutorials (tuweb). To sharpen the discussion, networking and partnerships among UT and other educational institutions and companies in terms of providing online learning supports for students will also be discovered.

2. Universitas Terbuka as an ODE Institution

UT was established as a single higher education institution in Indonesia which implemented open and distance education (ODE) system carrying out the mandate of increasing the accessibility of higher education which has not been evenly distributed throughout Indonesia and producing human development who mastered science and technology through distance education (Presidential Decree, 1984). At that time many high school graduates were not accommodated in tertiary institutions and there were many teachers throughout Indonesia with insufficient quality and qualifications needed to be improved in order to achieve the required level of education. The learning system implemented by UT has been the best solutions for students who are not accommodated in higher education institutions and teachers who want to improve their competence can study at UT without having to leave their job. Moreover, the learning activities

were not constrained by time and place.

A distance higher education (DHE) institution has different characteristics from F2F universities, i.e. 1) separate lecturers and students during the learning process; 2) the important role of the institution in the planning and development of learning materials; 3) the use of various media in the learning process; 4) availability of communication and high interactivity between UT and students; 5) limited class or group learning process; 6) application of industrial management; and 7) individualization of the learning process (Keegan, 1996).

It must be admitted that differences in the delivery of education using distance and F2F systems cause different challenges. Thus, UT has challenges that are certainly different when compared to F2F colleges, especially in the current era of disruption. The current period is referred to as a period of disruption, which is a challenge in the VUCA era (volatility, uncertainty, complexity, and ambiguity), which causes unpredictable changes so that UT must prepare itself to enter an era with high uncertainty (Moore et al., 2012). Currently, UT has entered its fifth generation DHE in which it has adopted computers and Internet-based virtual classes.

UT operates as DHE generation V although currently it is still adopting the practice of DHE generations II, III and IV with the reasons that UT must serve students living throughout Indonesia who have different levels of access, literacy, and economic capacity. Therefore, the technology used by UT in managing DHE ranges from radio and television to tuweb. In other words, UT has undergone various changes in the implementation of DHE. The learning process at UT has shifted from a traditional one to a blended/hybrid stage and is currently fully online/virtual learning environment (VLE). At the beginning, the printed learning materials were presented as the main sources for students' learning process and students' learning supports in the form of tutorials were still conducted face to face as well as through conventional media, namely print and electronic (TV and radio). The next stage is that along with technological advances in which the printed learning materials have been delivered in digital forms. Furthermore, the existence of very fast technological developments is also adopted by UT with the use of teleconferencing technology, network computers, and digital technology.

The position of UT as a single DHE institution has ended after the Regulation of the Minister of Education and Culture Number 109 Year 2013 published concerning the Implementation of Distance Education in Higher Education. The regulation provides opportunities for all universities that meet the requirements to offer distance learning. This has led to more and more universities implementing online learning practices. In addition, there is a situation that happened beyond human predictions—in the middle of March 2020 the President of the Republic of Indonesia, Joko Widodo, announced that Indonesia was entering a pandemic. This condition further aborts UT as the only higher education applying the DHE system.

3. Universitas Terbuka During the COVID-19 Pandemic

Referring to the policy that was issued by the national government of Indonesia entering the pandemic situation, the learning process in the elementary schools up to university levels has changed totally from F2F into online learning. This condition has created a huge problem for all schools and even universities, particularly for those that never applied online learning at all, since not all teachers and lecturers were ready to implement online learning. Moreover, the condition has caused some barriers, such as no sufficient knowledge of online learning methods and lack of supporting resources like computer devices and Internet connection. Therefore, this situation has brought some issues on how the education sectors, especially at higher education level, can overcome this extraordinary and unexpected situation.

In Indonesia, with the number of populations of 272.1 million, the COVID-19 pandemic has affected more than 4,600 universities that spread throughout Indonesia serving 8.3 million students (Directorate General of Higher Education, 2020). This drastic changes in the learning process from F2F to online learning practices for 8.3 million students was not an easy task. Out of 4,621 universities in Indonesia, only a small number of them that were ready with sufficient resources and capacities in organizing online learning. Consequently, the emergency remote education has become the best concept to be practiced ensuring the continuity of education (Bozkurt et al., 2020). Furthermore, Internet trends have shifted into a basic need for everyone since almost a

person's needs can be met in the Internet. Consequently, spending to be able to continue to access the Internet tends to get bigger. Internet users around the world, including mobile are increasing continuously. Based on International reports International Telecommunication Union (ITU) which is a United Nations (UN), the number of world Internet users in 2018 amounted to 3.9 billion. It means the number reached more than half of the world's population. This increase in number was also experienced by Indonesia. The number of the Internet users in Indonesia has amounted to 175.4 million in 2020, with 160 million people as social media users, as described in the following Fig. 1.

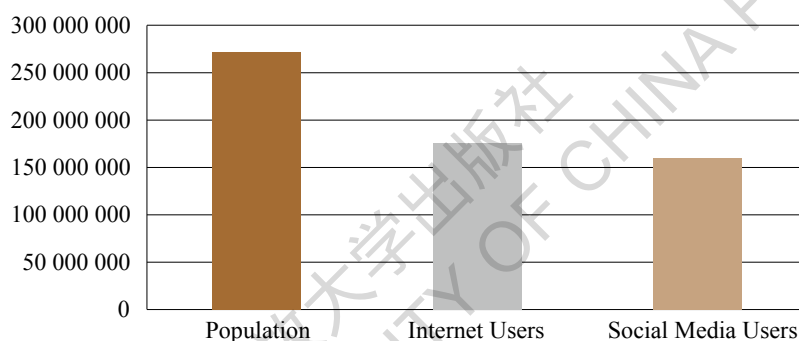


Fig. 1 Digital Trend 2020 in Indonesia

Source: Hootsuite.

The digital trend in Indonesia shows that more than 60% of the population are familiar with the use of the Internet. Moreover, the social media have also taken their interest because the channels of the social media are fast, various, and massive offered with different forms of information.

With the COVID-19 pandemic that occurred in Indonesia in early March 2020, UT is one of the universities in Indonesia that is better prepared to face this situation. This is because UT as an ODE institution had already developed good and quality learning tools, starting from producing quality teaching materials and providing effective student learning supports, including LMS facilities. In the early 2020, UT has achieved a big number of alumni, i.e. 1,808,454 graduates. Thus, UT has many challenges in building the Indonesian society's trust. UT must focus on

strengthening skills and technology capabilities to increase human resource productivity and innovation. The number of UT students since 2017 has increased from year to year. Compared to 2018, in 2019 the increase of UT's active students reached 6.9% at 430,000. The profile of UT students is dominated by students of the Faculty of Teacher Training and Education who are generally teachers (50.87%). In the last four semesters students from the teacher group experienced a decrease of 12%, while the number of students from other groups showed an increase (Universitas Terbuka, 2019). Fig. 2 shows the number of UT students from 2016 to 2019.

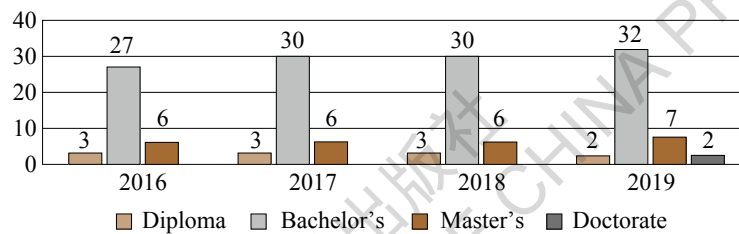


Fig. 2 Number of UT Students 2016–2019

Source: Universitas Terbuka, 2019.

UT students live in all districts in Indonesia and abroad. In terms of domicile, most UT students live in Java Island (40.94%) and Sumatra Island (29.51%); the rest are on other islands. Moreover, those living abroad reached 2,029 students spread in more than 40 countries. Meanwhile, in terms of age, the composition of students is dominated by young students. Students under 25 years old were 49.29%, followed by the young age group between 25 and 29 years as much as 18.71%, and the rest (32%) were in the group over 30 years. The number of student groups under the age of 25 has increased by about 10% (Universitas Terbuka, 2019).

UT is facing technology challenges in relation to the new normal and industrial era 4.0. Therefore, UT needs to learn and improve students' skills in the "New Literacy" and 6C" Characters (Fullan, 2014). The new literacy consists of data literacy, technology literacy, human literacy, and lifelong learner, while 6C refers to collaboration, critical thinking, creativity, communication, computational thinking, and compassion. Furthermore, there are two strategies UT needs to

carry out during the pandemic, i.e. strengthening ICT infrastructure and strengthening skills and technology capabilities to increase human resource productivity and innovation. UT's opportunities in strengthening staff's skills and technology capabilities are challenges in achieving demographic bonuses, economic opportunities through global connectivity, human resource investment to increase productivity through innovation, and strengthening education systems and technological innovation (Brodjonegoro, 2020).

4. UT Optimizing Online Learning Services for Students During the COVID-19 Pandemic

The condition of COVID-19 pandemic requires UT to make significant adaptations and modifications to several learning services for students. Besides, UT decided to actively participate in responding to the changes that the pandemic has made. UT has seized the opportunities either to modify or to find new ways of student learning services to address the learning crisis and bring about a set of solutions previously considered difficult to implement.

4.1 UT Radio, UT TV, Virtual Reading Room (RBV), and Digital Interactive Learning Materials

The use of the Internet in learning has also changed students' learning styles. In 2016, UT has officially launched UT Radio and UT TV as Internet-based learning media that can be accessed free of charge by students and the public via the UT website page at www.ut.ac.id (see Fig. 3). The development of these two new media aims to provide choices for students living in Indonesia and abroad based on their different learning styles to support the process of learning activities and strengthening the mastery of the competencies of the subjects studied. UT TV is a metamorphosis of Internet TV or ITV UT as a video program broadcast service that is broadcast over the Internet using the YouTube channel. UT TV contains tutorial programs, practices, practicum, and course enrichment, as well as UT TV information that can be selected and accessed by UT students according to their needs. Meanwhile, UT-Radio is a radio broadcast service that is transmitted via the Internet, which provides general education broadcasts and course tutorials, dissemination

of UT-related information, and educational entertainment. During the pandemic that has yet to alleviate in Indonesia, it does not diminish the vigor of the civitas academia of UT to continue to improve their understanding and dissemination of the knowledge of the system, technology, and management of distance learning programs for all lecturers, students, and the public in general. It is proven with the convention of the UT's Knowledge Sharing Forum (KSF) 2020 done virtually in a webinar mode through Microsoft Teams covering several topics regarding Open, Online and Distance Learning and broadcast on UT TV (Universitas Terbuka, 2020). Until the middle of November 2020, UT has conducted fourteen series of KSF. Therefore, it is obvious that during the pandemic UT TV has been used more effectively to optimize the student learning process as well as to broadcast some virtual academic events.



Fig. 3 The Profile of UT TV and UT Radio

Sources: 1) https://www.youtube.com/channel/UCoUPOCg0m4hGeHW_VP-q6QA.
2) <http://utradio.ut.ac.id/>.

The change in learning styles today is a learning style connected to the Internet, a learning style that jumps far from 30 years earlier that only relied on libraries and printed books. Digitalization brings about changes in the way students learn. Internet technology allows all learning and learning resources to be searched using a smartphone in various kinds of media. The development of network technology allows the formation of networks connected by the Internet to form a separate educational ecosystem that is effective and efficient. Therefore, the virtual reading room (Ruang Baca virtual, RBV) service was implemented in early 2004 with the aim of helping students access modules in digital form (see Fig. 4). Previously this service only displayed a summary of each chapter of each textbook, but since 2012 the UT leadership issued a policy that the RBV can be accessed in full text. Users who can access the RBV service are those who have registered for tuition fees each semester along with online tutorial activation.

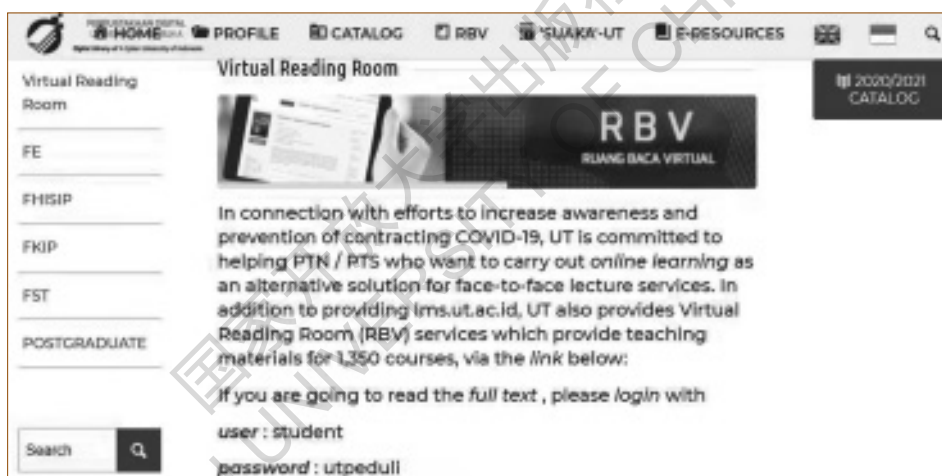


Fig. 4 UT's Virtual Reading Room

Source: <https://www.pustaka.ut.ac.id/lib/ruangbaca/>.

During the COVID-19 pandemic, UT has tried to support the national government in ensuring education continuity and protect the safety of students and education practitioners with its strengths as an ODE institution. Thus, besides providing LMS to help other higher education institutions carry out online learning, UT decided to share learning materials for more than 1,300

courses not only with UT's students but also for public.

In line with the continuous innovation efforts carried out by UT in the implementation of ODL, especially in the provision of teaching materials, it is necessary to improve policies, develop models, and determine standards for developing teaching materials. It is obviously important to improve meaningful learning experiences for students in achieving learning competencies more effectively. The efforts carried out to improve the quality of teaching materials are integrating information and communication technology (ICT) more optimally.

During the pandemic, the use of digital allows students to experience interactive learning activities more effectively, both in the cognitive aspects and the use of navigation and material enrichment through integrated multimedia in interactive learning activities. There are some characteristics of the digital interactive learning materials, i.e. high engagement intensity, inserted in-text questions for reflection, multimedia integrated, creative and attractive appearance with various learning resources (<http://badigital.ut.ac.id/>) (see Fig. 5).



Fig. 5 Digital Interactive Learning Materials

Source: <https://twitter.com/UnivTerbuka/status/637519818657165312/photo/1>.

4.2 Learning Supports: UT Asynchronous and Synchronous Tutorials

One of the big priorities for governments during the COVID-19 pandemic is ensuring learning continuity during the time of school closure (United Nations, 2020). The Minister of Education and Culture stated that the development of innovations in learning methods is needed to explore the best technological platforms as well as to ensure the process of student learning is conducted successfully. The Ministry has launched the program of 2021, namely the school digitation to ensure that the schools have ICT toolkits accelerated with initiate platform based on school capacities (Ministry of Education and Culture, 2020).

During the COVID-19 pandemic that occurred in March 2020, UT was forced to do some adaptations and modifications to learning support services for students. Since UT students are included in the category of adult students known as andragogy, the characteristics of students at ODE institution are that most adult students are self-starters (Simonson et al., 2014). This means that they only need a little interest in the subject matter, and they will soon focus on learning it. The characteristics of students' self-directed learning in online learning need to be optimally facilitated. Teachers act as facilitators who are responsible for providing "Web-supported or Web-enhanced instructions" (Dabbagh et al., 2005)²³. Therefore, UT has optimized the web-based student learning supports services both asynchronously and synchronously.

4.2.1 UT Asynchronous Tutorials

The challenge for ODE institutions at a higher level is to provide the best quality in learning supports to their students by using technology which is transforming the delivery of education in "unthinkable" ways (DeNeui et al., 2006). The use of technology is very important in distance learning since it can give various meaningful learning experiences to students and also optimize creating a learner-centered environment. Therefore, since 2001 UT has provided an asynchronous tutorial using the Moodle platform to deliver the materials as well as to optimize the student learning process. Fig. 6 illustrates the increase in the number of asynchronous tutorials during the COVID-19 pandemic as follows.

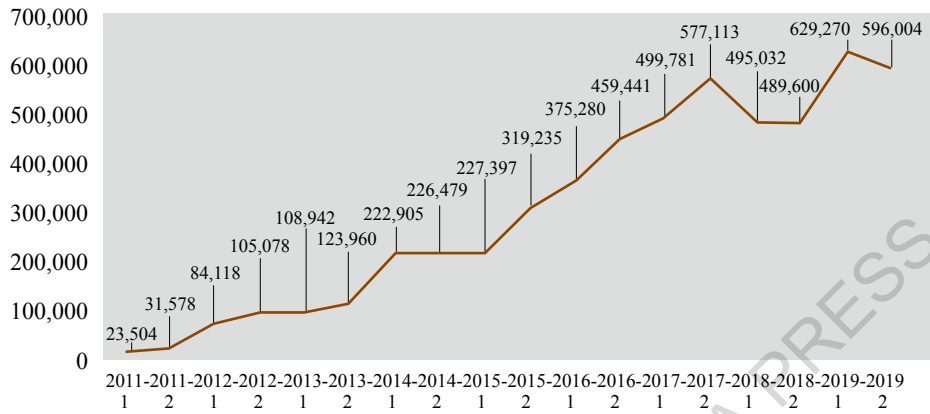


Fig. 6 Student Participation for Online Learning Services

Source: ICT Centre Universitas Terbuka (Modified).

Fig. 6 reveals that online student participation rate has increased since 2011 till 2014. The growth of this participation rate is in line with the implementation of a new curriculum policy which all courses being offered should be equipped with two kinds of learning support services i.e. F2F and online learning platforms. Fig. 6 also shows that since 2015 online participation level tends to be significantly increase since 2015 up to 2017, then, in 2018 decreased because of the employment of a new standard operating procedure in taking online courses by the University. Furthermore, the student's participation rate in online learning services specifically using asynchronous platform before and during COVID-19 outbreak can be viewed in Tab. 1 as follows.

Tab. 1 Number of Asynchronous Tutorial Classes and Students

Participated Before and During the COVID-19 Pandemic

Types of tutorial	Before COVID-19 (2019)		During COVID-19 (2020)	
	Number of classes	Number of students	Number of classes	Number of students
Online Tutorial (asynchronous)	12,580	596,010	12,991	605,237

Source: The Center for Students' Learning Support of Universitas Terbuka.

Tab. 1 shows that there was an increase of almost 10% in the number of online classes offered and the number of students active in tuton during the pandemic compared to before the pandemic. This increase in number is also supported by the digital competence of students as discussed by Rahmiaty, Ardiasih & Meylina (2020) that several features of the Moodle platform used at UT have been upgraded to the last version so that chat rooms and Moodle-based features are more comfortable for students, especially in interacting with tutors and other friends. Furthermore, in related research students showed that they liked the system even though they were not very satisfied with the features of the Moodle mobile application. In addition, positive statements also emerged that many students stated that studying at UT was a good choice in dealing with a pandemic situation. This is in line with previous research that the system was built to simplify the development of online basic materials and enable the creation of virtual content, in particular, to support the virtual learning process (Coates et al., 2005).

4.2.2 UT Synchronous Web-Based Tutorials

One of the learning supports services that have undergone a significant change is F2F tutorial. F2F tutorials for the first semester of 2020 cannot be implemented at all and it has been changed to a synchronous online tutorial service called a web-based tutorial (tuweb). Tab. 2 shows the comparison of the number of tutorial services provided before the COVID-19 pandemic in 2019 and during the COVID-19 pandemic.

**Tab. 2 Number of Synchronous Tuweb Classes and Students
Participated Before and During the COVID-19 Pandemic**

Types of tutorial	Before COVID-19 (2019)		During COVID-19 (2020)	
	Number of classes	Number of students	Number of classes	Number of students
F2F tutorial	29,674	593,471	0	0
Synchronous tuweb	21	192	26,573	476,703

Source: The Center for Students' Learning Support of Universitas Terbuka.

The table shows that the number of F2F tutorial classes before the COVID-19 pandemic was

29,674 classes. During the COVID-19 pandemic, all F2F tutorial classes in the first semester of 2020 were cancelled and replaced with synchronous online tutorials or tuweb. There were 26,573 classes of tuweb in total. This condition has been a very drastic change considering that prior to COVID-19 in which tuweb classes were 21 and held only for UT students who live overseas. Regarding the replacement of F2F tutorial services to tuweb, there was a decrease in the number of classes by 10%, from 29,674 classes to 26,573 classes. These data indicate that not all students who were previously taking F2F tutorial services can follow synchronous online tutorial services (tuweb) during the COVID-19 pandemic. It is estimated that not all students have good and stable Internet access so that they will experience difficulties if they follow tuweb.

4.3 Student Assignments and Examinations

In most countries, exams have been postponed during the pandemic; in a few, they have been cancelled; and, in others, they have been replaced by continuous assessments or alternative modalities, such as online testing for final exams, innovative continuous assessment (United Nations, 2020). The Minister of Education and Culture of the Republic of Indonesia, Nadiem Makarim, issued two policies regarding the student examinations. First, the cancellation of the national examinations. Makarim said that the cancellation of the national exam due to the COVID-19 pandemic would not affect graduation or enrollment at higher levels of education (Jakartapost.com). Second, the adjustment of school examinations. There were several options the government and lawmakers were looking at to replace the national exam, one of which was to use assessments based on cumulative grades on students' academic report from three years of study for junior and senior high school students, as well as six years of study for elementary students. Additionally, the school will calculate the grades considering all aspects of the report cards, including curricular and extracurricular activities.

Along with the development of the situation in other countries as well as other institutions in Indonesia, UT inevitably must consider more effective and practical solutions in conducting final semester exams. Some issues in relation to the final examinations are connectivity, cost, electricity, and access to online platforms. In the previous semesters, in some regions of Indonesia final semester exams have been held F2F under the partnerships with the local governments and

local schools. Online exams are offered to students who are unable to take F2F exam. Students must come to the nearest regional office to take the final semester exam using the online system. However, the online final semester examination with proctoring system has been carried out for several students who live in countries outside Indonesia.

In early April 2020, entering the final semester examination period, UT issued a policy related to the implementation of the final semester exam. UT eliminates F2F implementation of the final semester exams. Seeing this emergency, UT was not technically ready to carry out the online exam. UT again faced difficulties in reaching students who could not take tuton and tuweb. However, with good cooperation between UT head office and UT regional offices, UT issued a new policy, namely Course Assignments or Tugas Mata Kuliah (TMK). TMK was given to students who did not have access either to tuton or tuweb. This policy got positive responses from the regional offices and the students. From the total 312,565 students registered in the semester, 154,908 students or 49.6% from 39 UT Regional Offices and UT's Center for Students Overseas registered taking TMK. TMK consists of three assignments for each course given to ensure the students complete the courses. In providing TMK, UT develops an online application used by students to download and upload their assignments. During the pandemic, the number of TMK students receiving is 529,805^①. In the condition of limited Internet connection, the TMK has given significant supports to students because for downloading or uploading TMK does not require a lot of time of Internet connection.

Innovative continuous assessment methods have received a lot of attention. Student progress can be monitored with mobile phone surveys, tracking usage and performance statistics from learning platforms and Apps, and implementing rapid learning assessments to identify learning gaps. Every solution has its own challenge, notably in terms of equity (UNICEF, 2020). During the preparation for the final examinations that were usually conducted face to face by the regional offices under the management of the Centre for Examinations, UT has launched a new policy called "take home exam or THE". This policy was taken as a positive response to the pandemic crisis to give students opportunities to do the assignments at home. Applying this system has created some

① Centre for Examinations, 2020. Course Assignments 2020.

consequences in terms of the quality of students' work. Therefore, in order to meet the quality standards, there are some criteria to be considered by THE writers in developing THE, i.e. in the form of essay assignments, implementing higher-order thinking skills, and asking students to provide references to strengthen their ideas. Besides, THE writers must provide both assignment guidelines and band-descriptors for scoring the assignment.

4.4 UT's Networking and Partnerships for Optimizing Students' Online Learning Services

Stepping on the age of 36 years, in line with the development of the era and the external environment in the future which still places higher education in a central position in the development of Human Resources (HR) of a nation, encouraging UT to also adapt to these environmental changes. Various attempts were made to respond to the changes that occurred, including the reformulation, refinement, and expansion of the two initial mandates in accordance with the demands of the government and the wider community (Universitas Terbuka, 2019).

In 2020 the number of UT students who are under 30 years old reached 60%. The change in the age profile of students will inevitably affect the types of services UT needs to provide to students because most UT students are computer literate. Some young UT students have not worked and worked part-time, so they need to be provided with an activity design to increase their social interaction. UT also has the opportunity to develop effective public relations and marketing strategies to increase the number of students and develop strategic alliances with other universities to organize programs or courses together.

The policy of providing opportunities to open distance education by F2F universities during the pandemic which was proclaimed by the Ministry of Education and Culture has been a threat as well as an opportunity for UT to partner strategically in the use of existing UT resources and networks in various regions. In addition, UT must accelerate the transformation process to an advanced e-learning provider that continues to make UT the pioneer of ODE and e-learning in Indonesia. Furthermore, the development of UT as a Cyber-University aims to realize UT as a strategic development of higher education innovations based on information and communication

technology (ICT). Several things that become the focuses are 1) development of based education programs ICT; 2) development of an e-learning platform; 3) supporting the implementation of services e-learning for a variety of communities; 4) administrators of standardization of human resources (lecturers and staff education) manager of ODE or e-learning; and 5) network development and strengthening ODE or e-learning community in Indonesia.

As a pioneer of ODE in Indonesia, UT is one of the most visited public universities in Indonesia other universities, both from within and outside the country to conduct comparative studies on distance learning or e-learning. The comparative study visits often followed up by signing the MoU and Cooperation Agreements. Up to 2020, there are more than 170 collaborations have been made with other universities, companies, and the government, both at the central and regional levels, on policy and infrastructure development (for example, to provide Internet access, etc.). Some of the activities designed for the partnerships are organizing Independent Course Program for students from different universities, consultation for other universities in organizing ODE, and providing e-learning facilities for the partners (Universitas Terbuka, 2020).

4.5 Lesson Learnt

A national survey to some higher education institutions in Indonesia was conducted by the Indonesian government through the Ministry of Education and Culture with the purpose of identifying some lessons that can be learnt in the relationships between the institutions and governments in the future. The four valuable strategies can be implemented are 1) both the governments and institutions keep the best practices and improvement on some aspects such as the use of technology effectively and efficiently, improve the quality of online learning and increase the infrastructure; 2) the use of online technology must be increased to enlarge the accessibility and increase the quality of education including learning materials, learning activities, and the partnership with other universities; 3) online learning can enrich the students' learning experiences, but cannot replace the whole F2F learning activities (physical activities); and 4) teachers/lecturers need to adapt themselves to the transformations and change their roles as students' partners in exploring the knowledge and develop their potentials as well as their competences (Ministry of Education and Culture, 2020).

During the pandemic, UT students inevitably learned how to enhance their own skills more independently in relation to cognitive competence, such as elaborate some ideas from the reading activities, state their opinions or arguments with sufficient and relevant explanations, and optimize the use of Moodle to motivate and facilitate their autonomous learning activities. Therefore, it is expected that after the COVID-19 pandemic, the students increase their 4Cs, i.e. creativity, critical thinking, communication, and collaborative skills (Chidiac et al., 2018).

UT's role is very big to increase the gross participation rate of higher education institutions. UT as a provider of distance education based on current technology can play a role in increasing the resources of Indonesia's younger generation, especially generation Z or the Indonesian millennial generation who are very familiar with educational technology (e-education).

Digital tools can be used to help fix challenges in which after the pandemic, many new jobs will require new skills, and it is estimated that Indonesia will face a shortage of around nine million workers with much-needed digital skills between 2015 and 2030. Indonesia can build on online learning efforts and habits developed during the pandemic to teach new skills wider and faster (Lath et al., 2020). For some reason, the pandemic has forced people to live in a stronger crisis. Thus, it is the right time for Indonesia to consider the various trends that will define the next normal, such as the aspects of health, governance and regulation, technology and innovation, energy and environment, work habits, society and consumers, and social contracts.

5. Conclusion

UT is faced with challenges of the future trend that Indonesia's demographics are filled with millennials who are familiar with technology is an opportunity for UT whose education process is based on technology media. This has been an opportunity for UT to strengthen distance education based on quality technology in collaboration with cloud computing providers. Moreover, examining again the advantages of UT with a technology-based distance education system with unlimited capacity as an advantage that has not been perceived in the minds of the millennial

generation, but UT's position as a state university makes bargaining value for the productive generation to make UT a university that can be their partner self-development.

The use of Moodle as a platform at UT in facilitating the students has created abundance of advantages before and during Pandemic COVID-19 spread. While pandemic gradually arise and expand in many places, the method to adopt online learning system becomes an option in education. Previously students at UT opt to take online learning due to their limited access of F2F learning. This time, online learning is the only alternative in continuing the progress in education. Students at UT and definitely the institution itself have been ready with these issues and steadily improve their quality in all aspect of system. In this period of time, even before pandemic, the finding depicted that UT students do not need to struggle anymore to understand the system, though some improvement definitely still needed on making a progressive convenience on system, which then is part of responsible of the authorities at UT.

The COVID-19 pandemic has been a challenge as well as an opportunity for UT as an open and distance higher education institution. The challenge is how UT continues to provide optimal distance education services to students while maintaining the quality of services that have been built so far. On the other hand, UT which has implemented open and distance higher education for more than three decades has opportunities to give better services to students and the society, especially to find effective solutions so that during the pandemic, students continue to trust UT as their choice for learn. In line with the emergence of many universities implementing e-learning and distance education, UT embraces them as partners to work together in overcoming problems related to student teaching material services, student learning supports, and student examinations. It is expected that the partnerships can be developed not only between universities but also with companies and the government.

References

- BOZKURT A, JUNG I, XIAO J, et al., 2020. A global outlook to the interruption of education due to COVID-19 pandemic: navigating in a time of uncertainty and crisis. *Asian journal of distance education*, 15(1): 1–126.

- BRODJONEGORO B P S, 2020. QA Innovation for technology-based education post COVID-19. presented on UT's 11th knowledge sharing forum(KSF). [2021-01-19]. <https://sl.ut.ac.id/materiksf11>.
- CHIDIAC R S, AJAKA L, 2018. Writing through the 4Cs in the content areas—integrating creativity, critical thinking, collaboration, and communication// Paper presented at the Proceedings of the 12th International Scientific Forum. [S.l.]: [s.n.].
- CNN Indonesia, 2020. Kasus Positif Virus Corona Indonesia Peringkat 19 di Dunia. [2021-01-19]. <https://www.cnnindonesia.com/internasional/20201102091156-106-564768/kasus-positif-virus-corona-indonesia-peringkat-19-di-dunia>.
- COATES H, JAMES R, BALDWIN G J T, et al., 2005. A critical examination of the effects of learning management systems on university teaching and learning. *Tertiary education & management*, 11: 19–36.
- DABBAGH N, BANNAN-RITLAND B, 2005. *Online Learning: concepts, strategies, and application*. New Jersey: Pearson Education, Inc.
- DENEUI D L, DODGE T L, 2006. Asynchronous learning networks and student outcomes: the utility of online learning components in hybrid courses. *Journal of instructional psychology*, 33(4): 256–259.
- Directorate General of Higher Education, 2020. Summary of higher education statistic: indonesia bureau of statistics 2018. Jakarta: Ministry of Education.
- DOCS M, 2019. [2021-01-19]. https://docs.moodle.org/37/en/Main_page.
- FULLAN M, 2014. *The principal: three keys to maximizing impact*. San Fransisco: Josse-Bass.
- Hootsuite, 2020. Digital 2020 indonesia. [2021-01-19]. <https://andi.link/hootsuite-we-are-social-indonesian-digital-report-2020/>.
- Jakartapost.com, 2020. Cancellation of national exams won't affect graduation, enrollment: Nadiem. [2021-01-19]. <https://www.thejakartapost.com/news/2020/03/25/cancellation-of-national-exams-wont-affect-graduation-enrollment-nadiem.html>.
- KEEGAN D, 1996. *The foundations of distance education*. London: Routledge.
- LATH V, LEE T, TAN K T, et al., 2020. With effort, indonesia can emerge from the COVID-19 crisis stronger. McKinsey & Company.
- LAUTENBACH G, RANDELL N, 2020. World, interrupted: online learning in the time of a pandemic. *Proceedings of edMedia + innovate learning*: 65–72.

- MOORE M G, KEARSLEY G, 2012. Distance education: a system view of online learning (3rd ed). California: Wadsworth Cengage Learning.
- Ministry of Education and Culture, 2020. Structuring the roadmap of distance learning: Kompas Talk with Universitas Terbuka. [2021-01-19]. <https://www.kompas.com/edu/read/2020/09/03/061421871/peta-jalan-pembelajaran-jarak-jauh-peluang-di-tengah-keterbatasan?page=all>.
- Presidential Decree, 1984: the establishment of UT. [2021-01-19]. <https://peraturan.bpk.go.id/Home/Details/65344/keppres-no-41-tahun-1984#:~:text=KEPPRES%20No.%2041%20Tahun%201984,Universitas%20Terbuka%20%5BJDIH%20BPK%20RI%5D>.
- RAHMIATY, ARDIASIH L S, MEYLINA, 2020. Online language learning in higher education: an overview on students' digital competence//Proceeding: The Fifth Annual International Seminar on English Language Teaching (AISELT) 2020.
- RICE W, 2011. Moodle 2.0 e-learning course development: a complete guide to successful learning using moodle. Birmingham: Packt Publishing Ltd.
- SIMONSON M, SMALDINO S, SVACEK S M, 2014. Teaching and learning at a distance: foundations of distance education (6th ed). Boston: Pearson Education, Inc.
- UNICEF, 2020. Putting the "learning" back in remote learning. [2021-01-9]. https://www.unicef.org/globalinsight/sites/unicef.org_files/2020-06/UNICEF-Global-Insight-remote-learning-issue-brief-2020.pdf.
- United Nation. 2020, Policy brief: education during COVID-19 and beyond. [2021-01-19]. https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/_sg_policy_brief_covid-19_and_education_august_2020.pdf.
- Universitas Terbuka, 2019. UT rector's report 2019. Jakarta: Universitas Terbuka.
- Universitas Terbuka, 2020. UT held series of knowledge sharing forum (KSF) 2020. [2021-01-19]. <https://www.ut.ac.id/en/news/2020/07/ut-held-series-knowledge-sharing-forum-2020>.
- WHO, 2020. WHO coronavirus disease (COVID-19) dashboard. [2021-01-19]. <https://covid19.who.int/>.



Masaya Iwanaga

...anyone has been able to access OIJ's education via radios and TVs. Through JMOOC, all of OIJ's courses are expected to be shifted to online classes. This change also enables OIJ to sufficiently respond to the new demands of lifelong learning opportunities. This evolution is expected to become a great opportunity of the OIJ as well.

Prof. Masaya Iwanaga is President of the Open University of Japan. His areas of specialty are Sociology of Education, Lifelong Learning and Social Research. His research themes are higher education and society, distance higher education and social research method. He received his PhD. in Arts and Sciences, Tsukuba University, Japan, in 2014.



The Open University of Japan
<https://www.ouj.ac.jp/eng/>

Predictions and Strategies of Open and Distance Higher Education in Japan

Masaya Iwanaga, President of the Open University of Japan

Abstract

In this article, we analyze the current situation and the future vision of open and distance education as an effective tool for lifelong learning at institutions of higher education.

- i. Open and distance higher education formally utilizes some forms of remote mediums as its teaching tool instead of traditional face-to-face classes. Openness and remoteness are the main features.
- ii. The history of open and distance higher education in the world significantly varies depending on the targeted learners and the employed medium.
- iii. The most utilized medium for open and distance higher education in the world is currently the Internet, which has developed extensively this century. Although there are some differences by generation, recently, more elderly people have been using the Internet.
- iv. In addition to the gradual decline of social inequity, the Internet has widely spread throughout society; online classes became a new approach for the group of people who used to face difficulties in receiving the traditional style of higher education. Thus, open and distance higher education has become a tool to overcome social inequity in terms of providing access to colleges and universities.
- v. Because of the COVID-19 pandemic, the traditional in-person classes in higher education have significantly changed. As many higher educational institutions have implemented online classes, the traditional teaching approaches and curricula have also started to change.
- vi. Although the transformation of the traditional higher education in Japan intensifies competition, at the same time, it has inspired educational innovation at the Open University of Japan (OUJ).

1. Open and Distance Higher Education and the Media for Distance Education

The purpose of this article is to study the current situation, obstacles, future predictions, and strategies of open and distance higher education (ODHE). First we would like to summarize the features of ODHE.

Typically, ODHE contains two important factors: higher education with openness and higher education which implements distance learning.

First, regarding openness, generally the openness of higher education is understood as the following:

“The term ‘open’ in reference to university programs and courses describes a wide range of education realities. In general, it denotes a flexibility and accessibility not usually found in traditional education. This refers specifically to admission requirements, flexible schedules, and accessible locations—or some combination of these and other conveniences. The OUUK seeks to be ‘open to people, open to places, open to ideas and open to methods.’^①

In other words, openness in college education refers to the opportunity to receive a higher education that has only a minimum admission requirement such as a high school diploma or GED, has an unconfined learning structure, and is not constrained by time and space. It means that these institutions of higher education have a wide and open admission policy as they have a very minimum selection process. Though, the term “open university” generally indicates that the educational institution has programs which students can acquire credits and also earn a legitimate college degree when they graduate. Usually, the institution that provides programs such as an extension programs is not considered as an open university. Additionally, institutions for lifelong learning that are open to anyone and institutions for adult education that do not endow any degrees

① HAUGHEY M, 2010. Teaching and learning in distance education before the digital age// CLEVELAND-INNES, GARRISON D R. An introduction to distance education: understanding teaching and learning in a new era. New York: Routledge, 63–64.

are not considered as open universities.

Distance learning in higher education generally refers to universities and colleges that use some forms of instructional media to conduct distance learning instead of face-to-face instruction. Distance education is defined as a formal method of teaching when the students and teacher are physically separated.^① This definition applies not only to universities and colleges, but to all forms of distance learning. Commonly, most open universities that are open to anyone without a selective admission process offer distance learning. Though, in reality, many educational institutions that offer various in-person classes, such as community colleges in United States and the Open University of Hong Kong (OUHK), are also referred to as open universities. Additionally, some open universities have a strict selective admission process such as the FernUniversität in Hagen and the Korea National Open University (KNOU). Thus, distance learning provided by institutions of higher education and open universities cannot always be categorized as the same. However, these days, the educational institutions that possess one of these characteristics are often referred to as open and distance higher education.

As a matter of fact, varieties of instructional media are used for distance learning at colleges and universities. Generally speaking, in the past, the most widely used instructional media for distance learning was written/printed correspondences. However, determining the origin of distance learning is almost impossible, as it includes independent study with books or correspondences between teachers and students. Thus, the origin could be considered as old as the usage of correspondences.

In the late modern period, among the universities in the Western world, notably at universities in England, distance learning emerged via correspondences. During the late 19th century in the United States, as people began living across vast lands after the frontier disappeared, correspondence studies became more widespread and frequently implemented by educational institutions. In 1892, the University of Chicago offered the first college level distance learning program through correspondence study. In the same year, the University of Wisconsin initiated a

① VERDUIN J R, CLARK, T A, 1991. Distance education. San Francisco: Jossey-Bass, 8.

program by correspondence study.^① Around the same time, distance learning by correspondence also flourished among countries in Europe. It was called “Fernunterricht” in German, “télé-enseignement” in French, and “educación a distancia” in Spanish.^②

Following the widespread implementation of distance learning, some extremely descriptive definitions of the term “distance education” were used. For instance, in the 1970s, UNESCO had defined distance education as “conducted by postal services without face-to-face interaction between teacher and learner. Teaching is done by written or tape-recorded materials through written or taped exercises to the teacher, who corrects them and returns them to the learner with criticisms and advice.”^③ However, nowadays, D. Keegan’s definition is the most commonly cited definition of distance education. Keegan criticized the definition by UNESCO and described the following six components as “essential elements of any comprehensive definitions of distance learning.”^④

- a) Teacher-learner separation;
- b) Educational organization influence in educational planning and materials;
- c) Technological media usage;
- d) Two-way interactive communications;
- e) Appropriate number of opportunities to participate in seminars;
- f) Participation in an industrialized (innovative) form of education.

Keegan stated the definitions and components without specifying that these are only for higher education. However, some of the components such as a), e), and f) are not always appropriate for elementary and secondary education. Hence, the following discussions are regarded relevant to higher education and adult education.

① AKAHORI M, 2001. Boston public broadcasting station (WGBH) and civil education. [S. l.]: Toshindo, 89.

② *Ibid.* p.29.

③ UNESCO, 1979. Terminology of adult education. Paris: [s. n.], 21.

④ KEEGAN D, SEWART D, HOLMBERG B, 1984. Distance education: internal perspectives. New York: Routledge, 15.

In recent years, almost all universities in the United States have started offering distance learning and the number of students participating in distance learning has reached approximately 4.5 million. In addition, the number of students who take all of their classes through distance learning is reported to be over 0.8 million.^① Educational media used among these universities use a variety of postal services including Amazon. In fact, the use of postal service is limited compared to the use of other media such as TV, radio, satellite broadcast, CD, and DVD. Needless to say, the current tool most used is Edtech, which utilizes ICT (information and communication technology).

2. Current Situation of E-Learning at ODHE

Regarding the recent innovations of technology, there are three main points that can summarize the use of media by institutions of higher education.

First, various media are used in the programs within universities. For instance, online classes with two way interactive communications among different campuses at the same university, tutoring system using intranet and Wi-Fi, or other learning support systems including bulletin boards and library search engines. These days, materials such as videos and images are often created through computers, and computer software is greatly utilized in the classes every day. Almost all universities and colleges in Japan employ such multimedia teaching system.

Secondly, new media systems such as satellite broadcasts are used to exchange courses (transfer credits) between universities. In the United States, course exchanges, such as consortium programs have been widely implemented between universities in different states since the 1970s. These days, consortium programs are considered as normal as regular face-to-face classes. Also, these course exchanges easily spread overseas, unless there is a language barrier. In fact, the former Dean of Princeton University, Thomas Woodrow Wilson, who later became President of United States, stated at a speech that tutorials at Oxford University and seminars

① US Department of Education, National Center for Education Statistics, 2011. The condition of education. Indicator, 43.

from universities in Germany would become available to people wherever you live in the United States.^① During the 1980s in the United States, this had become a reality. In Japan, because of the strict Radio Act, the achievements of distance education had been delayed. In 1996, the Space Collaboration System project started while the National Institution for Multimedia Education (NIME) was established as its hub station. This enabled two-way video communication system between universities. During the next several years, more than one hundred ground stations were installed at universities across Japan. As a result, Japanese universities were able to exchange courses between multiple universities.^② However, because of the poor cost-effectiveness and the many issues with communication technology, this system ended in 2009 when the NIME (which was the guiding body of the project) was absorbed by the Open University of Japan through a merger. Instead, many educational institutions started to use convenient and inexpensive Internet based software for web conferencing such as Skype and Zoom as their distance learning tools.

Finally, universities that only offered distance learning programs had emerged. Starting in the 1970s and 1980s, the Open University in the UK (OUUK) and the Open University of Japan began using broadcast media for their classes. Since the 1990s, many virtual universities have been opened and the number has been increasing. Online classes including discussions, examinations, and evaluations, and the various administrative procedures are all conducted online. The United States has excelled remarkably in this form of education. In Japan, universities which utilize the same concept, such as Cyber University and Tokyo University of Information Science, have been opened. The network education institutions in China have also been growing swiftly.^③ Evidently, the spread of the Internet throughout these societies holds the key for this.

① O' DONNELL, JAMES J, 1996. The new liberal arts. *Liberal Education*, 82(2): 43–44.

② SCS Business Liaison Council, 1997. The report of SCS utilization. National Institute of Multimedia Education.

③ IWANAGA, MASAYA, 2006. Lifelong learning theory—modern society and lifelong learning. The Society for the Promotion of Education of the Open University of Japan, 179.

3. Rapid Diffusion of the Internet

Information and communication technology (ICT), in terms of the utilization of the Internet, was not successful two decades ago in Japan. The NUA Internet Survey, an American survey company, which was considered the most authoritative at the time, reported that the total global number of Internet hosts in January 2000 was approximately 72.4 million, of which 73.4 percent were in the United States. Japan followed second, though the number was 2.64 million, only 3.6 percent of the total. Additionally, according to the Japan Registry Services (JPRS), the number of Japanese domains which had the form of “(@) xxx.xx.jp” was approximately 120,000 at the time. The utilization rate of the Internet per population (individual based) in Japan was 30.5 percent. It was globally ranked 13th which was lower than the United States (59.9 percent), Sweden (56.4 percent), Singapore (44.6 percent), Australia (43.9 percent), South Korea (34.6 percent), and England (33.6%).

Nevertheless, the rate of Internet use in Japan showed a swift increase later. In 2019, the individual based utilization rate of Internet rose to 89.8 percent (see Fig. 1). In other words, about nine out of ten Japanese citizens were using the Internet.

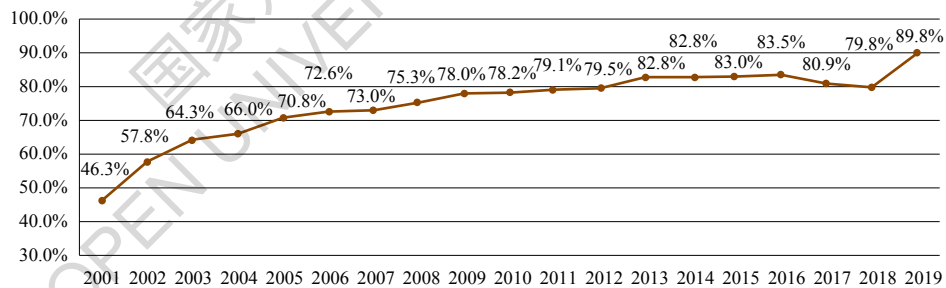


Fig. 1 The Internet Penetration Rates in Japan (Individual Based) (2001–2019)

Sources: “Communication Usage Trend Survey” by the Ministry of Internal Affairs and Communications, 2019.

Notably, among the people between 20 and 50 years old, the rate reached 98 to 99 percent. Additionally, the current number of Internet domains in Japan increased to approximately 1.62 million by December of 2020.^①

Accordingly, the rate of mobile device use including personal computers has also been increasing. In 2019, the Internet usage rate per household was 96.1 percent. (The rate was 70 percent for personal computers.) The result indicates that it has reached the point where almost all households use mobile devices. Although ICT utilization in Japan was previously lagging behind, it reached the global standard around the year 2010, and it is now among the most progressive group in the world.

Apparently, one of the reasons for the rapid growth of ICT utilization is the swift improvement of high speed and large capacity communication network systems. Before 2000, the most popular way of Internet access was by dialups to providers through telephone lines. The inconvenience of the process, the expensive cost, and the slow communication speeds were heavy obstacles for Internet diffusion, notably to the individual household. However, as the access speed has been significantly improved by the innovations of digital technology, it started to allow people to always stay connected to Internet.

Thus, the continuous Internet connection with flat monthly rates became available, and the previous issues had been solved simultaneously. The previous access speed using analog modems with telephone cables was 50 to 60 kilobit per second. Current access speed has been improved to 1000 megabit per second using an ADSL (Asymmetric Digital Subscriber Line) and fiber-optic communications. Previously, with analog cables, the application was limited to basic tasks such as the exchange of emails, fax, voicemails, and searching homepages, etc. Nevertheless, through the use of ADSL or fiber-optic communication systems, more advanced tasks such as two-way video calling, web conferencing, Zoom meetings, as well as sending large amounts of image material have become practically available. Moreover, individual Internet usage has substantially increased, most notably among young generations because of the expansions of

① According to the data by JPRS.

Wi-Fi (Wireless Fidelity).

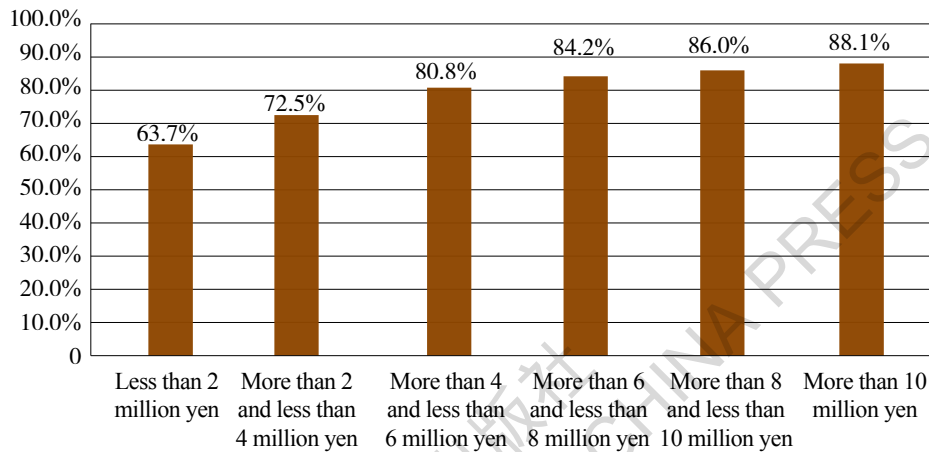


Fig. 2 Internet Penetration Rates by Annual Household Income

Sources: “Communication Usage Trend Survey” by the Ministry of Internal Affairs and Communications, 2012.

Though, it should be noted that there is a cost to acquire the equipment and to access the Internet. Disregarding the issue of whether or not ICT has cultural affinity, economic inequality caused a discrepancy in the opportunity for Internet access. Economic inequality is directly reflected in the inequity of the equipment and service contracts with providers. This issue is called the digital divide. Fig. 2 shows that the Internet penetration rate clearly has declined among households which have an annual income lower than 4 million yen (approx. 38 thousand dollars). Furthermore, the issue of the digital divide stems from a generational gap. Among people over the age of 65, Internet usage rate drops discontinuously. Although the situation is improving, unlike TVs, it has not reached the point that every household has a PC and uses the Internet on a daily basis regardless of annual income and the generational gap.

Although there are still some issues, the innovative development of infrastructure for ICT has significantly transformed the methods of ODHE in Japan. Technological innovations clearly

opened the ways for adult education through the application of ICT at universities. This will be discussed further in the next part.

4. Spread of the Internet and the Transformation of Higher Education

The rapid progress of ICT, which can be represented most notably as the growth of Internet use, has transformed the system of ODHE in Japan. The following are examples of these changes. First, the use of visual presentations became more available. These visuals provide more detailed information and are effective at enhancing learners' motivation. Previously, correspondence universities, which used to conduct classes through postal mail services, heavily relied on media as written letters and books. Schools broke away from this outdated approach. Second, approaches of teaching and learning have changed to newer methods, which are more focused on two-way communication instead of the one-way instruction that was accomplished by the old forms of media such as broadcast and books. Third, the utilization of ICT has enabled learners to easily overcome limitations of time and space. Thus, students could study according to their preferable speed and schedules. Lastly, as the universities' expenses for the facilities and equipment became significantly lower, schools were more likely to increase affordable and effective education opportunities. In sum, as the restrictions of time and space have been overcome, these transformations have resulted in great benefits for learners, such as full-time workers who do not have time to be physically present at school. Also, it allows people who live in remote areas to easily access higher education opportunities that had been usually concentrated only within the big cities like Tokyo, Osaka, and Nagoya.

In Japan since the late 1990s, universities and colleges went online with their own Internet terminals. As the Internet developed, Local Area Network (LAN) systems within each school also progressed. Currently, without exception, all universities have their own LAN systems. Contrarily, the ICT, specifically the Internet, had not been used sufficiently for daily teaching until recently. This is because there were traditional tendencies in Japan that believed education at universities should be conducted through written letters. Therefore, teaching approaches using communication

media had been perceived only as a supportive role of instruction.

Nevertheless, the revolution of technology and the economic change around university education forced universities to change this paradigm. Considering such social and technological backgrounds, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) issued a number of statements with recommendations to actively incorporate Internet use into classes at universities. Furthermore, MEXT recommended that universities which offer distance learning should improve the system by implementing programs that allow students to acquire all 124 required credits for graduation through online classes.

The utilization of the Internet has now become routine among universities in Japan, even though it was once uncommon. The statements and recommendations by MEXT were the external factors and the innovated technological systems were the internal factors of this progress. During the initial stages of online distance learning, Chris Dede of Harvard University, who is the authority on distance learning technologies, stated that Web Based Instruction (WBI) has important functions that will affect the entire higher education. “First, WBI will affect the improvements of educators’ teaching abilities because teachers are expected to provide quality education to large number of students who have different backgrounds from the traditional students. Next, WBI conveys the new forms of educational content which were not available before. By effectively utilizing them, not only the online classes, but also the traditional face-to-face classes will change.”^①

5. Influence of COVID-19 and the Future Visions of ODHE in Japan

In the early spring of 2020, COVID-19 cases began appearing in Japan. Until mid-March, the number of newly infected patients was about 20 to 40 nationally. However, the number soon increased significantly. The first wave of the pandemic reached Japan in April, the second wave

① DEDE C, 1996. The evolution of distance education: emerging technologies and distributed learning. *The American Journal of Distance Education*, 10(2): 5–6.

hit in July, and a third wave occurred in November. In the middle of December, the total number of positive cases exceeded 180 thousand.

Generally, Japanese universities have a spring break in February or March and the new semester starts in April. In March, most Japanese universities decided to close schools for about two months. Starting in May, they decided to replace almost all in-person classes by implementing distance learning using tools such as Zoom. Regardless of the size of the school, each university quickly shifted to online classes. Renowned national universities such as Tokyo University, Tohoku University, Nagoya University, and other large private universities shifted between 3,000 and 6,000 courses to distance learning. Moreover, these universities started to explore the utilization of existing courses offered by the Open University of Japan, as OUI has been offering distance education for years. Some universities decided to incorporate a variety of courses offered by the OUI into their curriculum. Due to copyright restrictions, not all universities can utilize all of the courses offered by OUI without restrictions. However, considering the current situation in which face-to-face classes on campus are not available, these restrictions are expected to be overcome.

Currently, as of the end of 2020, this situation has not yet changed. In light of this, we will be examining the future vision of OUI, which is the most representative university of ODHE in Japan.

Since OUI opened, the school used to offer all official courses mostly by TV and radio. Though, as previously mentioned, ICT has become widely available and innovative, so it has become challenging to sustain these traditional teaching methods. In fact, the OUI student survey which was conducted in June and July of 2020 showed that over 90 percent of the students who are young to middle age used the Internet as their primary learning tool. In addition, over 80 percent of the students took online classes instead of classes by TV or radio.^① This survey also showed that only half of the people over the age of 70 had slight problems using the Internet.

① The Open University of Japan, 2020. The open university of Japan student survey report.

Considering the result of the survey mentioned above, OIJ is analyzing and examining the utilization of some educational technologies to pursue the effective use of online digital communication technologies for education. Here are some overviews of the plans.

5.1 Providing Additional Learning Materials for Radio Courses

It is clear that radio courses convey a less amount of information to students compared to TV courses. Thus, the motivation levels of students who take radio courses tend to be low. Also, the cost of creating radio courses is substantially less expensive, as it is only about one tenth of the cost of creating TV courses. From the viewpoint of cost, offering radio courses has considerable merit. Thus, we are experimenting with offering online streamed radio courses using additional learning materials such as twenty to thirty PowerPoint slides for each lesson, hoping to lift up the learners' motivations. For now, only a small number of this type of courses have been offered, though the courses are very well received by the students. The future task of these experimental courses is to retain the fairness between the online streamed radio courses and the traditional radio courses.

5.2 Creating “On-Demand” Style Online Teaching Materials

Recently, most online lectures at institutions of higher education are web streamed, recorded lecture videos with some PPT images, OHP slides, or images of the writing on the white board. These “knowledge transfer” style online lectures are considered as the equivalent of web streamed TV broadcasted lectures. This type of courses allows the students to access the classes whenever they want to, as “on-demand”. Also, the students can access the recorded lectures repeatedly. Therefore, this type of courses is more convenient than TV broadcasted courses. The simplest way is to record the in-person lecture in the classroom and upload the video on a website such as YouTube. In addition, the costs are very low and the teachers have less workload. Although this is convenient, the benefits for learning are limited because the students are only watching the recorded lectures on the screen without actively participating. In these courses, students are less likely to become motivated.

5.3 Shifting to the Two-Way Interactive Online Classes

In this section, we will discuss the online classes which are two-way interactive; the teaching and learning processes are conducted at the same time with real-time communications. As previously mentioned, online courses with recorded lectures are equivalent to TV broadcasted courses; these two-way interactive online classes are considered the on-campus face-to-face classes. In this two-way interaction, the instructors talk to the students and the students respond. It is impossible to have real-time, two-way communications all the time, so flexibility in these communications are necessary, such as allowing more time to respond instead of requiring immediate and direct responses. This type of online classes is ideal as students can access them from their homes or workplaces, and students can also have meaningful discussions by utilizing online bulletin boards, just like face-to-face seminars. These “knowledge construction” types of online classes have been increasing at OIJ.

5.4 Implementation of Internet Based Testing (IBT)

OIJ has been conducting credit certification exams before endowing credits to students who take the radio and TV broadcasted courses. These exams are strictly and concurrently conducted for each subject at the designated testing centers located at 57 different places in Japan. Proctoring the exams and checking students' IDs have also been conducted face-to-face. However, it has been pointed out several times that this requirement of being physically present to take the exams hinders the students' flexibility of selecting courses. This year, because of the regulations to prevent the spread of COVID-19, these exams have not been conducted. Thus, OIJ is planning to implement Internet based testing for credit certification, allowing students to take the exams from their homes. There are several obstacles to overcome, such as establishing an effective and secure proctoring and ID checking system to prevent any misconduct and a support system for students who have insufficient Internet literacy. Currently, OIJ is preparing for the implementation of IBT from the first semester of 2022.

5.5 Participating in Open Course Ware (OCW) and Massive Open Online Courses (MOOCs)

In 2001, the OCW project by MIT in the U.S. began offering all of their lectures online for free, which surprised the academic world. In 2009, the OCW project developed as MOOCs with a new advantage. The videos of the lectures and the class materials were uploaded on the OCW project website. The advantage of the MOOCs is that people can now access the real-time or near real-time lectures through the Internet. Following the success of OCW and MOOCs, other free online course projects such as edX (2011), Coursera (2012), and Udacity (2012) have been initiated. Now, we are in the middle of the expansion of the OCW boom. In Japan, JMOOCs (Japan Massive Open Online Courses) started in 2014. Currently, there are 38 universities from Japan, including OUI, participating in JMOOCs, with a total number of 1.22 million students. Moreover, the Asian Association of Open Universities (AAOU), the organization of higher education institutions from different countries in Asia, has started Asian MOOCs for exchanging and sharing courses and degrees.

In fact, since the establishment of OUI over 30 years ago, its concept of education has been exactly the same as that of OCW and MOOCs. Except for the printed materials, anyone has been able to access OUI's education via radios and TVs. However, the quality of learning was insufficient, as the classes were not conducted with two-way interactive communication, almost likened to "peeking into the college lecture through the window from the outside." Through JMOOCs, all of OUI's courses are expected to be shifted to online classes. This change also enables OUI to sufficiently respond to the new demands of lifelong learning opportunities. This evolution is expected to become a great opportunity of the OUI as well.

References

- AKAHORI M, 2001. Boston public broadcasting station (WGBH) and civil education. [S.l.]: Toshindo, 89.
- DEDE C, 1996. The evolution of distance education: emerging technologies and distributed learning. *The American journal of distance education*, 10(2): 5–6.

- HAUGHEY M, 2010. Teaching and learning in distance education before the digital age//
CLEVELAND-INNES, GARRISON D R. An introduction to distance education: understanding
teaching and learning in a new era. New York: Routledge, 63–64.
- IWANAGA, MASAYA, 2006. Lifelong learning theory-modern society and lifelong learning. The
society for the promotion of education of the open university of Japan: 179.
- KEEGAN D, SEWART D, HOLMBERG B, 1984. Distance education: internal perspectives. New
York: Routledge, 15.
- O' DONNEL, JAMES J, 1996. The new liberal arts. Liberal education, 82(2): 43–44.
- SCS Business Liaison Council, 1997. The report of SCS utilization. National Institute of Multimedia
Education.
- The Open University of Japan, 2020. The open university of Japan student survey report. [S. 1.]: [s. n.].
- UNESCO, 1979. Terminology of adult education. Paris: [s.n.]: 21.
- US Department of Education, National Center for Education Statistics, 2011. The condition of
education. Indicator: 43.
- VERDUIN J R, CLARK T A, 1991. Distance education. San Francisco: Jossey-Bass: 8.



Dato' Dr. Mansor Fadzil

The pandemic has forced many conventional universities to adapt to the new normal and provide online teaching and learning. Despite being a leading ODL university in the country, OUM faces stiff competition from conventional universities which are switching to the online mode to offer programmes. In order to remain competitive, OUM is looking into innovative ways and better technology in its programme delivery.

Prof. Dato' Dr. Mansor Fadzil currently serves as the President/ Vice-Chancellor of Open University Malaysia (OUM). He graduated with a PhD. (Control System Engineering) from Sheffield University UK in 1985 and immediately served as a full-time lecturer at the Faculty of Engineering, University of Malaya (UM), upon his return. During his 15 years with UM, he was responsible for introducing online learning to the lecturers in 1998. He joined OUM in 1999 and played a key role in its establishment. He served the University as its Vice President (2000–2007), Senior Vice President (2007–2015) and was made the President/Vice-Chancellor in 2016. His research interests include e-learning, mobile learning and technology-led assessment systems.



Open University Malaysia
<https://www.oum.edu.my/>

Directions of Open and Online Education: Prediction and Strategies—A Case Study of Open University Malaysia

Mansor Fadzil, President of OUM; Yeong Chooi May

1. Evolution of Malaysian Higher Education

The Ministry of Higher Education Malaysia (MOHE) was established in 2004 with the primary role of creating a national higher education ecosystem and training to produce first-rate thinkers, scholars, masters, skilled and semi-skilled manpower through Public Universities (PU), Private Higher Educational Institutions (PHEIs), Polytechnics and Community College^①. It is also in line with the vision of the government in making Malaysia a centre of educational excellence, both locally and internationally. Prior to 2004, the Ministry of Education (MOE) was responsible for secondary and tertiary education in Malaysia. The MOE and MOHE were merged twice in 2013 and 2018. However, the Malaysian government set up MOHE again independently in 2015 and 2020 based on the relevant provisions of the Higher Education Act. With the split, the MOE is responsible for the primary and secondary education, while the Ministry of Higher Education is responsible for the tertiary education.

In the early 1990s, the Malaysian government came up with Vision 2020 which envisions the country to be a self-sufficient industrialised nation by the year 2020 covering all aspects of life, from economic prosperity, social well-being, world class education, political stability, as well as psychological balance^②. The government began to focus on expanding its privatisation initiatives

① TINGGI K P. The Ministry of Higher Education. <https://www.mohe.gov.my/en/corporate/about-us/introduction>.

② Malaysia. Seventh Malaysia Plan 1996–2000.

in 1983. During the Sixth Malaysian Plan (1991–1995) and later in 1996, it adopted a policy of expanding the role of the private sector as a provider of higher education to meet the huge demand for higher education and to reduce the outflow of foreign exchange (to reduce the number of student overseas)^①.

A number of Acts and Regulations were introduced in 1996 to facilitate the move such as the National Council of Higher Education Act, 1996 (Act 546), which has statutory powers to steer the direction of public and private higher education development; and the Private Higher Educational Institutions Act, 1996 (Act 555), which focused on the liberalisation of private higher educational institutions in Malaysia^②. However, the Asian financial crisis in 1997 impacted the growth of its public higher education.

The National Higher Education Strategic Plan or *Pelan Strategik Pengajian Tinggi Negara* (PSPTN) was launched in 2007 to boost economic growth and facilitate in making Malaysia as an international hub of excellence in higher education. In line with the National Education Philosophy and to meet the rapidly changing global economy, its goal was to ensure that Malaysian higher education institutions were capable in developing local talents, preparing the nation for the workforce through education and to expedite the nation's transition into a developed economy^③ where holistic human development is embedded in the education system.

Distance education in Malaysia started off with correspondence schools to cater to students who could not gain entry into government funded schools/higher education institutions (HEI). Distance learning has had a long history in Malaysia, tracing its beginning to the first offering of correspondence courses by Stamford College in the 1950s. In 1971, distance learning in the Malaysian public universities was first initiated by Universiti Sains Malaysia (USM) in the form of correspondence courses. In 1993, the Minister of Education Malaysia embarked on a policy

① SIVALINGAM G. Privatization of higher education in malaysia. <https://forumonpublicpolicy.com/archive07/sivalingam.pdf>: 10–11.

② *Ibid.* p.14.

③ National Higher Education Strategic Plan Malaysia Phase 2 (2011–2015). http://www.ilo.org/dyn/youthpol/es/equest.fileutils.docHandle?p_uploaded_file_id=477.

encouraging universities to offer programmes via distance learning with the aim of increasing the number of students in public institutions.

The 7th Malaysia Plan stipulated the need for distance learning programmes as a measure at improving accessibility and increasing participation at all education levels. As of 2020, there are 3 private open universities set up and approved by the Ministry of Higher Education, 1) Open University Malaysia (OUM); 2) Wawasan Open University; and 3) Asia e-University (AeU). The Al-Madinah International University (MEDIU) and University Tun Abdul Razak (UNIRAZAK) were also designated as ODL (open and distance learning) universities^①.

The Malaysian government plays a significant role in ensuring a healthy and sustainable development of ODL in Malaysia. Introducing various measures including governing policies to ensure ODL delivery is benchmarked against other world-renowned ODL institutions in terms of the standards and quality, credibility as well as human capital growth particularly knowledge workers for the nation.

Malaysia has introduced relevant policies to promote the development of ODL. The National eLearning Policy (NeLP) or *Dasar e-Pembelajaran Negara* (DePAN) provides a framework and direction for the implementation of e-learning in higher education in Malaysia which consisted of six pillars, namely, Infrastructure and Infostructure, Governance, Online Pedagogies, e-Content, Professional Development, and Acculturation^②. The Malaysian Qualifications Agency (MQA) released the Code of Practice for Open and Distance Learning (COPODL) in 2013 and it focuses on strengthening the programme accreditation process of ODL.

COPODL covers nine areas: (a) Vision, Mission, Educational Goals and Learning Outcomes; (b) Curriculum Design and Delivery; (c) Assessment of Students; (d) Student Selection and Support Services; (e) Academic Staff; (f) Educational Resources; (g) Programme Monitoring and

① UNESCO Institute Lifelong Learning. <https://uil.unesco.org/i/doc/lifelong-learning/policies/malaysia-strategy-blueprint-on-enculturation-of-lifelong-learning-for-malaysia-2011-2020>.

② *Dasar e-Pembelajaran Negara*. http://www.cade.upm.edu.my/dokumen/PTPA1_DePAN_v2.pdf.

Review; (h) Leadership, Governance and Administration; and (i) Continual Quality Improvement (CQI)^①.

2. Open University Malaysia: Managing and Adapting to Change in the New Era (Post COVID-19)

Open University Malaysia (OUM) is the country's first open university which was established on 10 August 2000 by a consortium of the first 11 public universities of Malaysia. OUM is the seventh private university established with the support of the Malaysian government and aimed to utilise all public universities experts and resources to offer the academic and professional development programmes in a more flexible format. As a leading ODL institution in Malaysia, OUM strives to make higher education more accessible and affordable to everyone, especially working adults. Its motto of a "University for All", underlines its belief in democratising education and to provide a basis for lifelong learning through constant innovation of its teaching-learning processes, helps prepare learners to meet the demands and challenges of the rapidly changing global environment.

OUM also sees internationalisation as an important effort to become a successful cross-border education provider. To date, OUM's presence is felt in three continents, Asia, Africa and Europe. These ventures have strengthened the University's position as an international provider of quality higher education. The success of these international collaborations depends highly on the support of our international partners in ensuring that learners receive the same quality programmes as their counterparts in other countries.

Through the Institute of Professional Development (IPD), OUM, also offers upskilling and

① <http://www2.mqa.gov.my/QAD/garispenduan/2014/COP-ODL.pdf> and latest edition 2019 can be downloaded at <https://www2.mqa.gov.my/qad/garispenduan/COPIA/2019/Final%20COPPA-ODL%202nd%20edition%204.12.19.pdf> <https://www.moe.gov.my/muat-turun/penerbitan-dan-jurnal/rujukan-akademik/1419-e-learning-in-malaysia-higher-education-institutions-status-trends-challenges/file>.

reskilling training programmes for industry players covering a broad range of areas including business administration, financial management, logistics and supply chain management, political science and more. IPD as the training arm of OUM is part of our initiative in fulfilling reskilling needs in the labour force, with 50 per cent of all employees predicted to need such training opportunities in the coming years, as reported by the World Economic Forum recently.

OUM ensures its teaching and delivery models consistently evolve to meet the ever changing needs and demands of learners through the adoption of the latest technology. Learning is made flexible and takes place through real and virtual interactions between learners and tutors via three modes of learning: self-managed learning, face-to-face (F2F) interaction and online learning. To ensure that learners experience quality learning, a compulsory core subject/module is introduced in the first semester to provide ways of managing learning.

The first case of COVID-19 in Malaysia was detected in January 2020. The Movement Control Order (MCO), which was enforced by the Malaysian government at the national level from March to June 2020, but due to the spike (3rd wave) of COVID-19 cases in October 2020, was again conducted in selected areas that were badly affected by the pandemic. This resulted in a temporary shutdown of certain businesses while schools and institutions of higher learning were encouraged to turn to online learning in an effort to stem the pandemic. The teaching and learning practices needed to be configured and fine-tuned their roles in anticipation of the challenging times ahead. Universities need to address challenges impacting higher education in order to survive and flourish. The use of technology in teaching and learning (digitisation), flexibility in learning modes and affordability are the core areas that all universities need to focus on.

The government has provided a few standard operating procedures (SOPs) such as Higher Education Department (HED) SOP (22 October 2020 edition) and Malaysian Qualification Agency (MQA) SOPs^① to help the HEIs (higher education institutions) manage their local and international students' who are studying during these challenging times. Both SOPs highlights the need to inculcate the new normal in the HEIs operations. The government also applauds HEIs in

① https://www.mqa.gov.my/pv4/mqa_covid19.cfm.

Malaysia, be it public or private universities, to participate in the COVID-19 research grants in April 2020 involving 20 main areas of studies including economy, public health, security, tourism, trade, information technology, education and food security^①. The pandemic has also forced the national digital transformation process to take place faster to pave for country's economic recovery.

Aligning its policies with that of the government and Ministry of Higher Education, OUM is currently focusing on strengthening its online learning component in anticipation of the prolonged pandemic to ensure uninterrupted delivery of its programmes and ensure continuous learner support. Consequently, the University decided to conduct all teaching and learning activities fully online. These include new student orientation, learning activities (in the form of e-Tutorials), continuous online assessment and examination activities. As OUM has 35 learning centres throughout the country, giving top priority to student safety and ensuring that their studies are not drastically affected is of utmost importance. The University maintained the same policy for its international students as Malaysia had to close its international borders to reduce and prevent cross-border spread of COVID-19.

3. OUM's Direction: Predictions and Strategies

OUM foresees 2021 as another challenging year. The fragile government, COVID-19 pandemic and economic slowdown are a "triple-whammy" for Malaysia. The country's unemployment rate is projected to trend around 3.50% in 2021 (4.2% for 2020)^② and 3.30% in 2022^③. Inflation remained at 0.7% in 2019, at -1.0% in 2020 and expected to increase to 2.5% in 2021^④. These

① Higher Education Ministry offers grants for post-Covid-19 research. <https://www.nst.com.my/news/nation/2020/04/583698/higher-education-ministry-offers-grants-post-covid-19-research>.

② [https://www.theedgemarkets.com/article/malaysias-2021-unemployment-rate-seen-improving-35#:~:text=KUALA%20LUMPUR%20\(Nov%206\)%3A,the%20Ministry%20of%20Finance's%20\(MoF\)](https://www.theedgemarkets.com/article/malaysias-2021-unemployment-rate-seen-improving-35#:~:text=KUALA%20LUMPUR%20(Nov%206)%3A,the%20Ministry%20of%20Finance's%20(MoF)).

③ Country profile Malaysia. <https://www.nordeatrade.com/en/explore-new-market/malaysia/economical-context>.

④ Malaysian Budget 2021. <https://www.cpaaustralia.com.au/-/media/corporate/allfiles/document/about/Malaysia-Budget-2020-21-Infographic.pdf>.

challenges will have a huge impact on the demand for goods and services with businesses being forced to downsize or close, jobs being cut, retrenchment, graduates unable to find jobs and anticipated reduction in purchasing power.

Despite the challenging year ahead, the University is re-evaluating its strategies after taking into account the emerging trends and technology impacting the world. Among its predictions are:

- The Accreditation of Prior Experiential Learning (APEL) entry system and the offering of microcredentials for programmes accredited by the MQA will see more people seeking higher education, thus contributing to the country's talent pool;
- Social and personalised learning promotes learning anywhere, lifelong learning and user generated content;
- 5G promotes the development of simulations (e-content) and learning experiences (connectivity);
- Expansion of fully online learning (FOL) networks (national and international) that creates innovation in teaching and learning delivery;
- Artificial intelligence triggers rise in disruptive technology (with a comprehensive total campus management system architecture, big data analytics, big data centre, and teaching and learning technology and platform(s) for delivery).

These predictions provide the University with the opportunity to re-evaluate its strategies with emphasis being given on sustainability, technology investment and enhancement, re-innovation of teaching and learning models, enhancing support services and strengthening of its human resource capability. These strategies will help evolve brand values by embracing digital transformation, intensifying marketing efforts, optimising efficiency and effectiveness of operations, strengthening of the monitoring and control of operations and exploring other income streams/channels.

3.1 Sustainability

OUM is a government-linked university and is governed by the first 11 public universities in Malaysia. Since its establishment, it has to generate its own income to remain sustainable. The Annual Business Policy Address (ABPA) by the President/Vice-Chancellor provides the

direction and way forward for the University to remain relevant in a highly competitive business environment.

3.1.1 Increase Growth Rate

Online learning, which has become a new norm due to the pandemic, is well-received by the working class and those who want to do part-time study. According to statistics, the majority of OUM students are now within the 30–40 year age group compared to the 40–50 year age cohort previously. This clearly shows that people within this age group are increasingly open to studying online with OUM as they have better ICT skills. Enrolment in the post-graduate programmes has also increased tremendously.

As a strategic effort to increase student numbers, the e-learning platform is continuously enhanced to strengthen online learning support. These include the learning management system (MYINSPIRE) (name of the system), e-learning contents and learning applications, e-tutorials, online examination system and online assessment grading. This will hopefully attract more students, both locally and abroad. OUM aims to increase intake of new students by 10% in 2021, both local and international, in order to remain sustainable. The frequency of intakes will be increased from 3 semesters to 4 semesters per year in anticipation of this growth prediction.

To achieve this goal, the University is developing several new programmes that meet current needs. Besides identifying other suitable programmes, it will continue offering popular programmes including early childhood education, business administration and nursing. To ensure relevancy of the curriculum for every programme, the University has appointed an Advisory Board comprising academics and industry representatives who are responsible in conducting periodical review of the curriculum.

Offering FOL mode of study will definitely provide greater opportunities for people to access higher education, without time and physical barriers. With Internet support, online education is becoming widely available and affordable to all.

3.1.2 Investment and Risk Management Strategy

There are a few important major investments by the University including the acquisition of new learning centres, marketing and promotional activities, technology (including big data/cloud centre) and capacity building. Each of these is captured in the key performance indicator (KPIs) of the Balanced Scorecard (BSC) to determine the outcome of the return of investment (ROI). This helps the University to predict trends and re-strategise its investments.

With FOL, there is less physical or F2F classes at the learning centres and as a result, the University has to revisit the KPIs on ROI with respect to the purchase of new buildings for new learning centres. Instead, emphasis is on technology investment including the purchase of new or upgraded ICT hardware to support the FOL delivery infrastructure.

The establishment of OUM's Investment and Risk Management Committee (IRMC) was timely to facilitate the risk management of the University during the pandemic. IRMC advises the Board of Directors on every investment proposal received which will be deliberated in detail prior to their implementation. Introduction to risk management workshops for heads of departments (HODs) was organised to facilitate the drawing of the risk register of each department. The risk register enables OUM to identify, analyse, evaluate and treat the risk to ensure the ROI provides maximum return for the University.

3.1.3 Flexible Entry Enrolments—A Unique Learning Experience

The current trend where working people who lack academic qualification but are keen on furthering their study has enabled the University to address this need by implementing the APEL entry system and microcredentials.

With the current pandemic, more people are likely to opt for APEL for university admission due to the flexibility in entry requirements and transfer of credits to reduce the duration of study. Microcredentials at OUM is known as Coursetrac and it is another easy and flexible entry approach where learners can try out courses at an affordable fee without committing to a full programme straightaway.

The University anticipates that more prospective learners will consider programme that allows flexibility in the entry requirements and programme delivery with affordable fee during this difficult time.

Accreditation of Prior Experiential Learning Entry System

On one hand, the Malaysian Qualification Framework (MQF) through the Malaysian Qualifications Agency (MQA) Act 2007 (Act 679) has a commitment to assist stakeholders in recognising prior learning and creating flexible learning pathways. On the other hand, the Malaysia Education Blueprint (Higher Education) 2015–2025 which was structured based on the Eleventh Malaysia Plan 2016–2020 focuses on lifelong learning aimed at enabling Malaysians to optimise their potentials. The APEL mechanism is a huge part of that initiative where it can help individuals improve social status through upskilling.

Based on MQA (2014), APEL is defined as a systematic process that involves the identification, documentation and assessment of prior experiential learning, i.e., knowledge, skills and attitudes, to determine the extent to which an individual has achieved the desired learning outcomes, for access to a programme of study and/or award of credits. Relevant instruments such as ODL, Accreditation of Prior Experiential Learning for Admission (APEL A), Accreditation of Prior Experiential Learning for Credit Transfer (APEL C) and Microcredentials are developed based on these blueprints and policies which are also practised at OUM. From a liberal humanistic perspective, there need to be a model to advocate the benefits of APEL to celebrate lifelong learning and permit students to gain competency.

International visibility and engagement is a focal point in OUM's strategic direction as presented in its 2019 Annual Business Policy Address (ABPA). Here, one of the tactics to achieve this goal is to administer APEL outside Malaysia through its collaboration with international partners. However, the instrument employed must be amended to suit the needs of these foreign candidates as advised by MQA. The candidate must be able to demonstrate competency in generic, numerical, information technology and communication skills. More holistic information such as work and life history will be provided by the candidate to paint a picture of his or her knowledge and practical skills in the APEL portfolio. It follows that the good principles of assessment such

as validity, reliability, authenticity, objectivity and practicality must be observed by the assessors. This is because the APEL practices and processes are monitored closely by MQA. One of the greatest achievements of OUM in 2019 was to secure a five years' extension of the APEL license through an official audit exercise conducted by the MQA panel.

Data on admission presented in Tab. 1 were collated using the management information system, a central database to capture all institutional data in OUM. Since the inception of COVID-19, universities have been requested to develop their e-learning systems as an imperative mode for the admission process as well as education delivery. Likewise, APEL processes are also conducted beyond time and space, leveraging on technology tools. The analysis of intake suggests that composition of APEL slightly improved (from 25% to 28%) in 2020 despite the effect of COVID-19 as compared to the yearly average observed. This effect is due to aggressive digitalisation efforts undertaken by the University. Total admission through APEL for OUM to date is about 25,000 learners.

Tab. 1 Admission and Composition Data

Yearly data	Average Intake (year 2017 to 2019) (before COVID-19)		Intake for 2020 (after COVID-19)	
	Number of students	Composition	Number of students	Composition
APEL	2,701	25%	2,434	28%
NORMAL	8,106	75%	6,237	72%
TOTAL	10,807	100%	8,671	100%

Data cut-off point: 07 October 2020.

Expected to grow to 30% by year end.

Based on a report presented in Tab. 2, OUM's APEL Centre believes that the APEL (C) instrument can help people achieve social equity at the same time realise economic goals to some extent. The applications for obtaining credit awards have been improving from year to year. The effect of COVID-19 has not reduced the performance (+26% from 2019 to 2020), instead, more and more students are applying for credit transfer using their working experience.

Tab. 2 APEL (C) Application Data

Year	Applications	Increase/Decrease from the previous year
2016	174	
2017	229	+32%
2018	432	+89%
2019	392	-9%
2020	493	+26%
Total	1,720	

The credits obtained for all forms of informal and non-formal learning can be accumulated towards a qualification depending on the students' desire. Two avenues to do so are already available in the Malaysian education system, namely Microcredentials and APEL (Q). Moving forward, OUM has been officially invited to conduct a pilot test on APEL (Q) by MQA. APEL (Q) is the award of academic qualifications to individual learners through the evaluation and assessment of prior experiential learning towards fully accredited programmes offered by the higher education providers in Malaysia. The basic entry requirement is to have at least 10 years of work experience for Diploma, 15 years for Bachelors and 20 years for Masters. The candidates will be assessed from the perspective of a portfolio submission (20%), filed and validation visit (20%), challenge test (30%) and completion of capstone courses (30%). More information will be available upon full implementation by OUM in the near future.

Micro-Credentials

Micro-credentials (MC) are a newly introduced recognition by MQA. Micro-credentials represent more than mere recognition of a smaller volume of learning. In designing and developing micro-credential or Coursetrac, OUM is guided by the demands of the industry, employers, regulators and learners in terms of the depth, breadth, mode of delivery, andragogical approach, student learning time and competency mix. The implementation of MC is based on 5 main principles: (1) Outcome based; (2) Personalised; (3) Industry driven; (4) Secure and shareable; and (5) Transparent.

For a successful implementation of MC to take place, a university must make sure that its instructional design team is well-versed in the current skills and operation knowledge. Secondly, investment needs to be done to enhance the online learning platform. Moreover, there needs to be a strong linkage between the operations of APEL and MC, for the benefit of students. Many questions still exist around MC but looking at the big picture, here are the three main origins of MC with regard to the Malaysian scenario:

Firstly, all the courses in the MC offerings are components from a fully or provisionally accredited programme of a university. Since all the courses are recognised, the student can directly obtain credit transfer towards a qualification.

Secondly, MC may come from a combination of courses from accredited programmes via multiple universities (whether local or foreign). Under this mechanism, the student will have an option to go to one university at the end of his/her credit accumulation to seek for a qualification. A maximum of 70% credit transfer can be given whereas at least 30% of the graduating credits must be studied in the awarding university.

Finally, standalone courses (accredited/non accredited) can be undertaken from multiple providers. Here, credit transfers can be considered up to 30% via MOOCs or the APEL (C) mechanisms. More recognition can be obtained via APEL (Q) which is also another flexible pathway in Malaysia.

3.1.4 Technology Shift/Progression Towards Fully Online Culture

The pandemic has greatly affected the global economy, forcing many to rely on technology to sustain business operations and education sector was no exception. As such, technology progression towards digitalisation is vital for ODL universities to cope with the new normal. Thus, OUM has taken up the following measures with regard to technology adoption and applications for the benefit of both students and staff.

Introduce Scheme(s) to Facilitate Adoption of Digital Revolution to Staff and Students

The University provides upgrades to newer desktop computers or laptops (between 3 to 7 years)

or replace with latest models and specifications of the old desktop computers or laptops (more than 8 years) for academics and support staff. This enables effective teaching and learning to take place fully online.

The University provides subsidy for staff to purchase mobile phones to ensure that administrative support for enrolments as well as teaching and learning delivery run smoothly. As for the students, OUM collaborates with major Telco companies to offer broadband/Internet packages with smart phones to students so they could access their studies at any time like joining the online forum, downloading learning resources, completing online assessments, submitting assignments or project work online, etc.

Equip Knowledge and Enhance IT Personnel's Skills (Performance Based)

Human Resource (HR) is critical to the success of the University particularly in ensuring that employees possess the right attributes and skills to perform in their jobs. HR works closely with the heads of departments to evaluate, identify and implement suitable training and development for staff specifically in the area of programming languages for systems development, e-content (i-lectures, video lectures, e-modules/learning materials, instructional design etc.), mobile App, e-lessons, e-assessments, online examination questions (for Question Bank), adopting Open Educational Resources (OER) and others.

OUM leverages on its in-house learning management system (MYINSPIRE) that is Moodle based to facilitate the academics (and staff) in upgrading and enhancing their IT, e-content development and e-learning skills. Training is provided and often the MYINSPIRE is used during the training as it provides easy to use templates to prepare e-lessons, e-modules and video lectures.

To measure staff performance, the University uses the Performance Management System (PMS) as a tool to benchmark staff achievements based on the four Key Performance Indicators as listed in the BSC Framework. They are Financial, Customer, Internal Process and Learning & Growth perspectives. KPIs in the Learning & Growth drives the staff technology knowledge and skills progression and shift of change.

3.2 Technology Investment & Enhancement

As an ODL university, OUM is highly dependent on technology to provide state-of-the-art campus management and learning management systems which serve as its backbone in providing students with a conducive learning experience. In view of this, the University needs to constantly innovate and invest on technology in an effort to enhance its ICT infrastructure.

The pandemic has forced many conventional universities to adapt to the new normal and provide online teaching and learning. Despite being a leading ODL university in the country, OUM faces stiff competition from conventional universities which are switching to the online mode to offer programmes. In order to remain competitive, OUM is looking into innovative ways and better technology in its programme delivery.

3.2.1 Increase Investment in ICT Infrastructure

OUM is highly dependent on technology and having state-of-the-art infrastructure is crucial to support teaching and learning.

Leverage and Enhance Existing Infrastructure

Enhancement of current infrastructure is being implemented to ensure high-performance and efficient IT network (see Fig. 1). These include:

- Deploying high-performance network for the University, including the campus backbone, improved wireless connectivity, and a managed network service for Learning Centers, embracing gigabit transfer by upgrading network hardware.
- Deploying a “Virtualization” based framework: Purchase of new servers for AIMS for in-house virtualization for high availability of core OUM Online Services.
- Migrating from “One Server Per System Concept”, to Hardware Virtualization has been one of OUM’s move to ensure all systems are available at all time.
- Ensuring high-bandwidth connectivity between the central University and its Learning Centers by leveraging on Telekom Malaysia’s high-speed Internet Business packages (see Fig. 2).

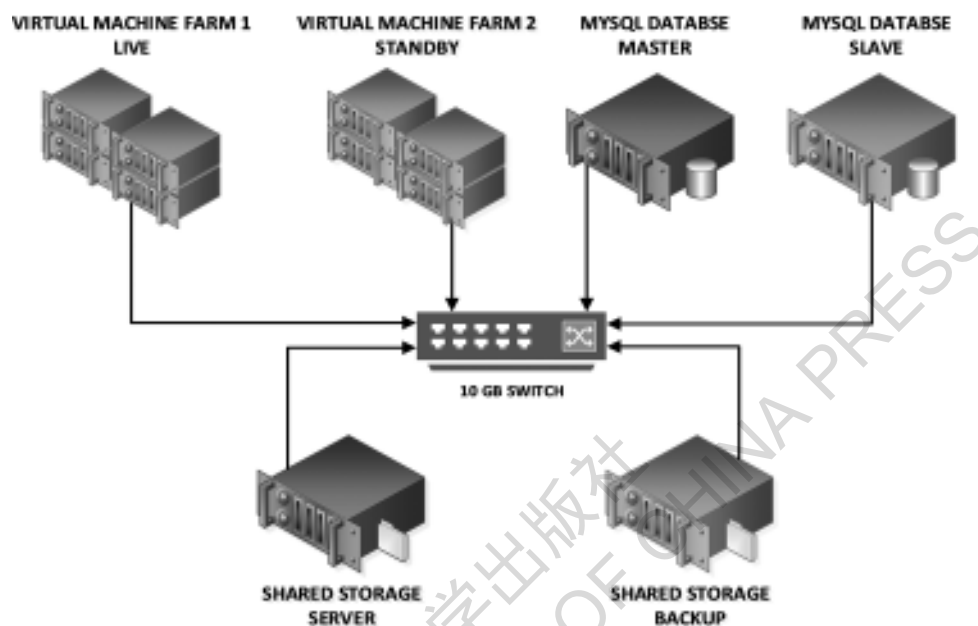


Fig. 1 OUM's New Network Architecture

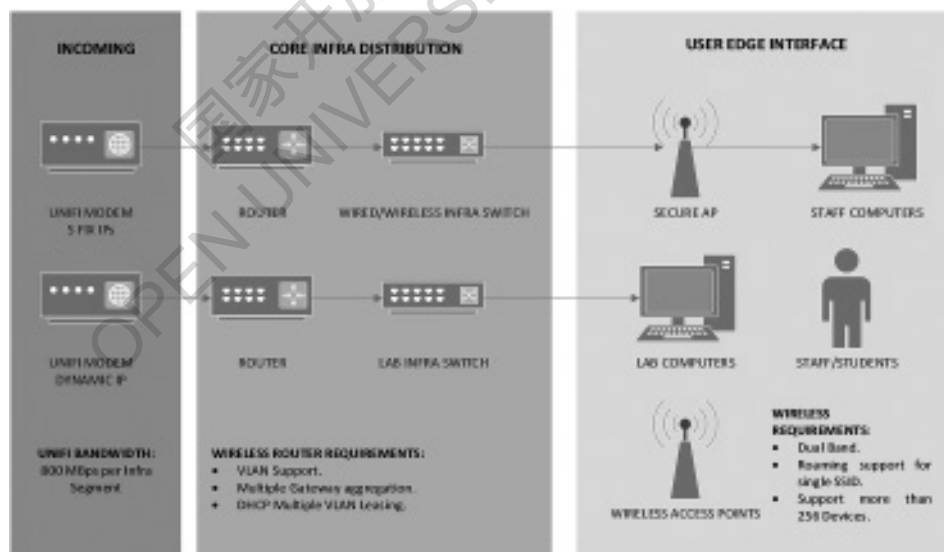


Fig. 2 OUM's Learning Centre's Network Architecture

Enhance Security Policies of (Sensitive) Data

Through the Group of Information & Communication Technology Services (GICTS), a department in OUM, it is responsible in ensuring availability, preserving integrity and protecting confidentiality for all systems and ICT infrastructure owned by OUM. These assurances are governed by security policies and procedures practiced by staff.

Core Systems are housed in an Enterprise Level Data Center which is protected by secure perimeters and entry controls. User access to these Systems are encrypted and protected by firewalls. Internet Bandwidth goes through Packet scrubbing to ensure legit traffic enters OUM's hosting environment. Thus, the University is developing and enhancing a comprehensive set of security policies in accordance to users, data, regulatory environment and other relevant factors.

Focus on Integration

The sudden requirement for technology in adapting the FOL mode has created a digital divide among users. A user owning a smart device (including laptop or computer desktop) does not mean they are technology savvy, thus, the University needs to bridge the digital divide so they are better prepared to embrace the technology shift or change.

Integration of systems, online support services and legacy applications with a single sign on feature is developed to provide learners a one-stop automated services that can enhance their learning experience and academic staff, a complete teaching experience. The data import-export between services is the key. All information and activities are from a central hub branded the Open University Portal.

The teaching process too is being reviewed and enhanced. In efforts to enrich the process of learning, OUM has standardized the usage of ICT peripherals. Laptops and teaching devices with latest specifications were purchased to support fully online teaching.

While technology is a major ingredient in this new norm, content development and learning analytics is also being given focus. OUM's MYINSPIRE is constantly being enhanced to stimulate self-learning amongst students. Online assessments and examinations via MYINSPIRE

are being meticulous planned and monitored by the OUM's Examination Unit about concerns over efficiency and accountability.

SMART Campus and Big Data Centre

Also in the pipeline is the conversion of the University into a SMART Campus that is equipped with total campus management system and artificial intelligence (AI). Hence, the ICT infrastructure foundation is enhanced to ensure the migration to SMART Campus. In the long term, the University is developing a big data centre to support the SMART Campus. The University is hoping to make use of data science to integrate its rich data to enable real-time infographic to support programme design, and understand learner behaviour in terms of their retention and academic performance. The University is shifting from the use of conventional statistical analysis using SPSS towards the use of big data analytics to build a well-rounded overview of its learners, to predict their persistence and performance, and to develop a responsive learning environment.

3.2.2 High Volume of Online Learning Users

OUM foresees more learners converting to online learning due to the new normal. This is significant as an instruction from MOHE was also given to HEIs to run online classes throughout the COVID-19 lockdown. OUM has conducted learner's evaluation feedback on learner's acceptance of FOL mode which showed favourable response. The result will be shared in the later part of this chapter. The University has taken initiatives to collaborate with giant online education solution company to offer stabilised infrastructure that facilitates better email storage and video conferencing at reasonable cost.

The education sector enjoys many perks from online service giant Google. Google workspace provides an extensive collaboration tools that enhance teaching and learning. Some services may come with a price tag; therefore, selection of these services is done based on mission critical requirements. Video Conferencing is important as it enables interactive e-tutorials through Google Meet in addition to establishing an extensive library of resources via Google Drive for self-paced learning.

During the pandemic, OUM has chosen to run with Google Enterprise for Education to ensure that all lectures, discussions, tutorials and meetings are recorded. This is to ensure the availability of resources at OUM's are just a click away (see Fig. 3).



Fig. 3 Services Provided by Google

Source: https://edu.google.com/products/gsuite-for-education/?modal_active=none.

OUM has chosen to use Google Meet video conferencing solution (see Fig. 4) formerly known as Google Hangouts Meet to conduct online classes.

As OUM subscribes to G Suite Enterprise for Education, virtual classrooms accommodate up to 250 participants, the recording classroom will be automatically saved to Google Drive and share video recording to the students for later viewing.

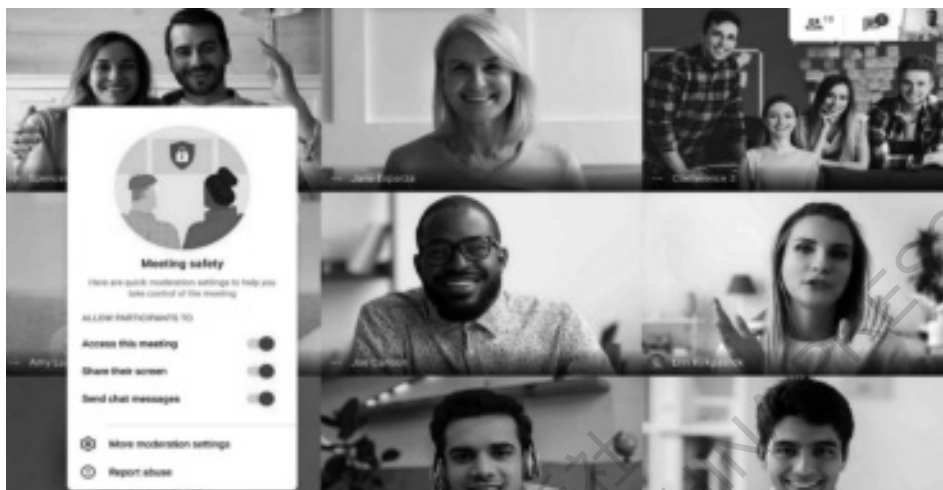


Fig. 4 Screenshot of Google Meet Video Conferencing

Source: <https://global.techradar.com/en-za/news/gmail-and-google-meet-get-major-security-boost>.

The perception of using Google Meet to deliver online classes has been well received by students, tutors and staff. Statistic on detail usage Google Meet as below Fig. 5:

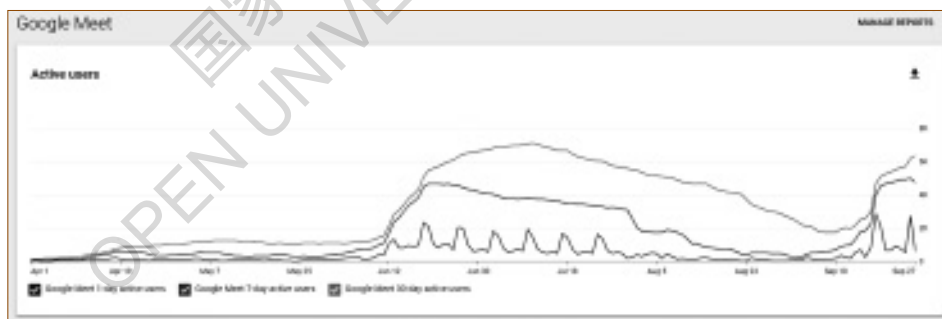


Fig. 5 Statistic on Detail Usage Google Meet

Source: OUM Google Dashboard.

3.3 Re-Innovate Teaching and Learning Models

OUM employs a blended approach in teaching and learning. With the pandemic, the University has adapted to a new normal with the transition to FOL. The University has reduced the F2F sessions and increase online learning sessions. Innovation and re-innovation in teaching and learning are essential for the sustainability of the University.

3.3.1 Constant Innovation and Upgrade to the Learning Management System

The learning management system plays an important role to support online learning. In fact, MYINSPIRE LMS is a critical component in OUM's online learning endeavour (see Fig. 6).



Fig. 6 MYINSPIRE LMS Main Page

MYINSPIRE supports students' self-managed and online learning by providing various features in its course page through a user-friendly and simple navigation structure. Its main features include:

- E-Module which is a customised module developed in-house by OUM;
- E-Forums that support asynchronous interaction between learners-instructor and learners-learners;
- Video Lectures and other interactive learning resources;
- Direct link (single sign-on) to e-books (and OUM's learning materials) available in the unlimited worldwide access (including mobile access) Digital Library;
- Mobile Learning—supported through a dedicated mobile App;
- Self-tracking that allows the learners to manage their own learning.

3.3.2 Migrating to Fully Online Learning Mode During the COVID-19 Pandemic

The University's move towards FOL began two years ago and managed to quickly roll out its online learning delivery with much success following the pandemic. In order to further support the learners in this online learning mode, the University has implemented four new “services” via MYINSPIRE, namely:

- To change the outlook of MYINSPIRE LMS;
- E-Lessons;
- E-Tutorials;
- Online Examination System (OES).

The outlook of MYINSPIRE LMS (see Fig. 7) was changed in the early this year in order to make it more dynamic and attractive. This is done in order to entice the learners to this platform during the implementation of FOL.



Fig. 7 MYINSPIRE New Outlook

One of the critical courseware that was developed in order to support the FOL mode was the e-Lessons (see Fig. 8). E-lessons are the weekly learning kit provided to the students. It consists of video lectures (including OER videos) and questions for the discussions via forum and supplemented with pre-test and post-test questions for self-assessment. The development of

e-lessons started in 2017 in a progressive manner. However, the development of e-lessons have been expedited in March in order to support FOL courses due to COVID-19 pandemic. More than 5,000 e-lessons had been developed in less than two months for more than 500 subjects.



Fig. 8 E-Lesson Courseware Inside MYINSPIRE

E-Tutorials are the synchronous-based tutorials introduced at OUM to replace the F2F tutorial sessions which were discontinued due to COVID-19 pandemic. OUM has adopted the Meet

video conferencing system from Google in order to roll out the e-tutorials (see Fig. 9). Meet and other Google services are already in the OUM's subscription for the past few years. Thus, the adoption of these Google services are not a big problem for OUM. In addition, this strategy has enabled OUM to utilise Google's bandwidth and the unlimited storage under Google's "education" program. This has enabled OUM to save cost yet is able to provide effective services to the students.



Fig. 9 E-Tutorial Session Conducted by an OUM Academic via Google Meet

Assessment occupies a fundamental position in the process of teaching and learning, whether in a conventional system, or an ODL system. Managing assessment effectively is not only important, but a necessity for ODL universities that deal with a range of assessment complexities due to their operating structure. ODL institutions are demanded to ensure that their assessment standards are able to meet and fulfil multifaceted expectations and requirements. This becomes more critical during the COVID-19 pandemic as examinations could not be conducted in the examination hall and need to be replaced with the online examination. Thus, an effective management system for assessment practices and procedures is fundamental to coherently manage the many and various assessments in meeting the goals while taking into account the opportunities and constraints

in the ODL settings and to address new external developments and threats that are beyond our control. As such, OUM has developed a web-based OES (see Fig. 10) in order to implement online examinations during the pandemic. It has successfully piloted this at the last 2 semesters in 2020. The online assessment formats are multiple choice questions (MCQs), short essay questions (SEQs), take home exam etc.

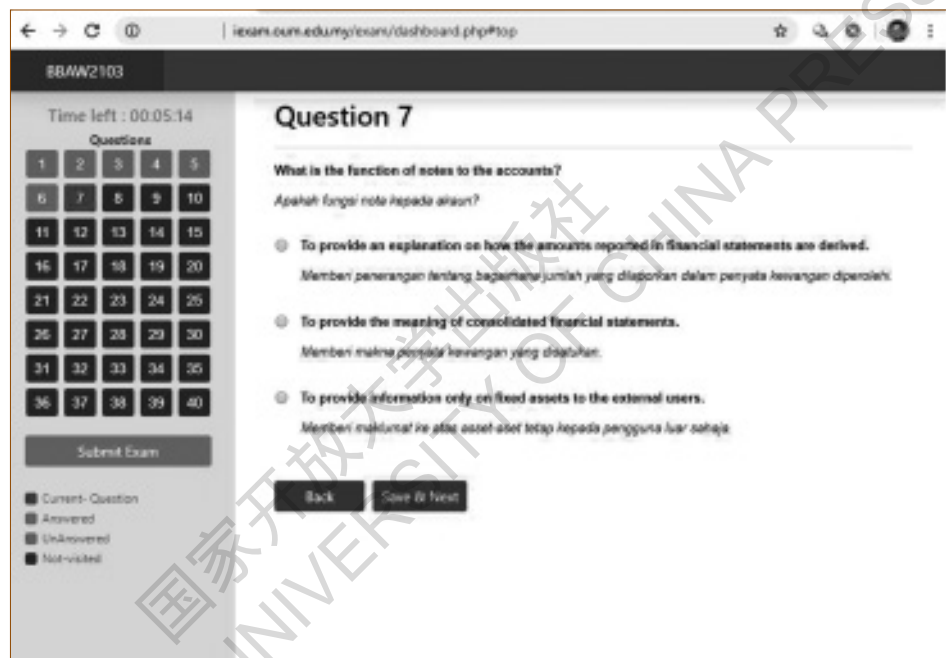
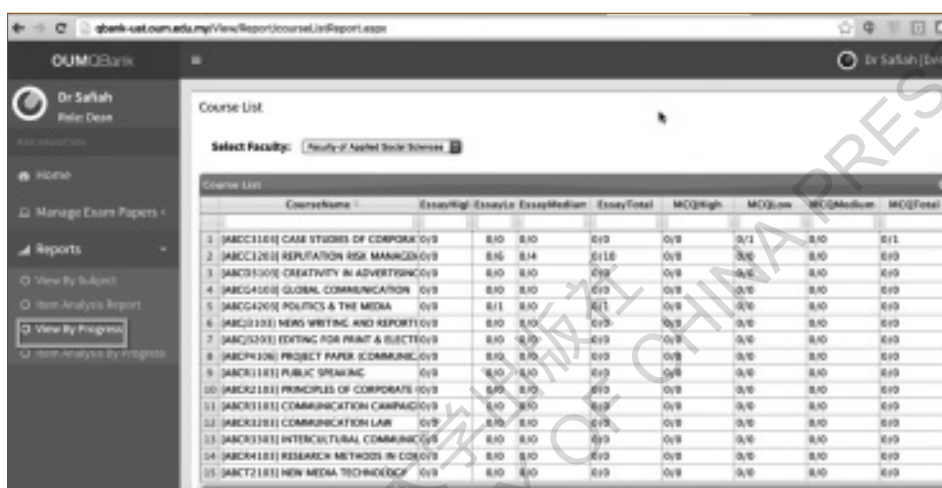


Fig. 10 OES Developed by OUM

OES is accessible from MYINSPIRE LMS via single sign-in and equipped with security features (TAC system) including detecting suspicious student activity when attempting the examination. OUM is also considering face recognition in the future to minimise plagiarism. OES is linked to OUM's in-house developed Question Bank (see Fig. 11). The Questions Bank supports the principles of outcome-based education (OBE) and the approved questions are automatically linked to OES. Question Bank itself has various features such as similarity checking that can detect

overlapped questions, user friendly text editor, systematic storage structure, table of specification, item analysis, report generation, management of the text paper and dashboard for easy monitoring. OES and Question Bank systems have ensured the successful implementation of OUM's FOL mode.



The screenshot displays the OUM Question Bank System interface. On the left is a sidebar menu with options like 'Home', 'Manage Exam Papers', 'Reports', and 'View By Progress'. The main area shows a 'Course List' table. The table has columns for 'Course Name', 'Essay/High', 'Essay/Medium', 'Essay/Low', 'MCQ/High', 'MCQ/Medium', and 'MCQ/Low'. The table lists 15 courses, each with corresponding scores for these categories.

Course Name	Essay/High	Essay/Medium	Essay/Low	MCQ/High	MCQ/Medium	MCQ/Low
1. JANC1101 CASE STUDIES OF CORPORATE	8.10	8.10	0.00	0.00	0.00	0.00
2. JANC1201 REPUTATION RISK MANAGEMENT	8.16	8.14	0.16	0.00	0.00	0.00
3. JANC1301 CREATIVITY IN ADVERTISING	8.10	8.10	0.00	0.00	0.00	0.00
4. JANC1401 GLOBAL COMMUNICATION	8.10	8.10	0.00	0.00	0.00	0.00
5. JANC1501 POLITICAL AND THE MEDIA	8.11	8.10	0.11	0.00	0.00	0.00
6. JANC1601 NEWS WRITING AND REPORTS	8.10	8.10	0.00	0.00	0.00	0.00
7. JANC1701 EDITING FOR PRINT & ELECTRONIC	8.10	8.10	0.00	0.00	0.00	0.00
8. JANC1801 PROJECT PAPER COMMUNICATION	8.10	8.10	0.00	0.00	0.00	0.00
9. JANC1901 PUBLIC SPEAKING	8.10	8.10	0.00	0.00	0.00	0.00
10. JANC2101 PRINCIPLES OF CORPORATE	8.10	8.10	0.00	0.00	0.00	0.00
11. JANC2201 COMMUNICATION CAMPAIGN	8.10	8.10	0.00	0.00	0.00	0.00
12. JANC2301 COMMUNICATION LAW	8.10	8.10	0.00	0.00	0.00	0.00
13. JANC2401 INTERCULTURAL COMMUNICATION	8.10	8.10	0.00	0.00	0.00	0.00
14. JANC2501 RESEARCH METHODS IN COMMUNICATION	8.10	8.10	0.00	0.00	0.00	0.00
15. JANC2601 NEW MEDIA TECHNOLOGY	8.10	8.10	0.00	0.00	0.00	0.00

Fig. 11 Question Bank System Linked with OES

Other online examination/assessment that has been introduced is the online practicum and viva for postgraduate learners through Google Meet. It has been very effective during this pandemic and MQA has also participated in these sessions to monitor/review/audit the quality of the online practicum and viva sessions conducted.

All the systems elaborated above are hosted in third-party hosting platforms with high bandwidth and are able to accommodate 40,000 students at a given time.

3.3.3 Learners' Evaluation

An online survey was conducted to gauge learners' acceptance of FOL mode especially during the COVID-19 pandemic of which a total of 18,305 (68%) learners responded. The outcome of the survey is presented in the Fig. 12 to Fig. 14 below.

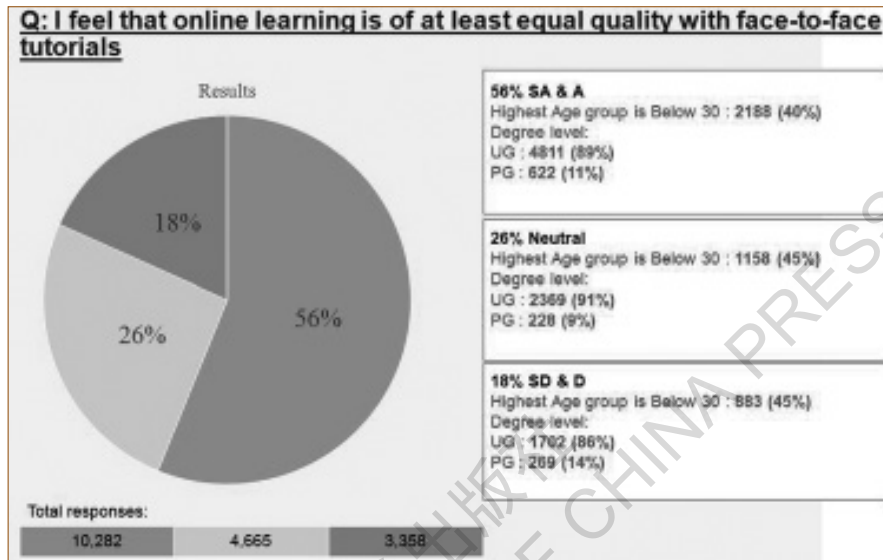


Fig. 12 The Survey Result for the Quality of Online Learning

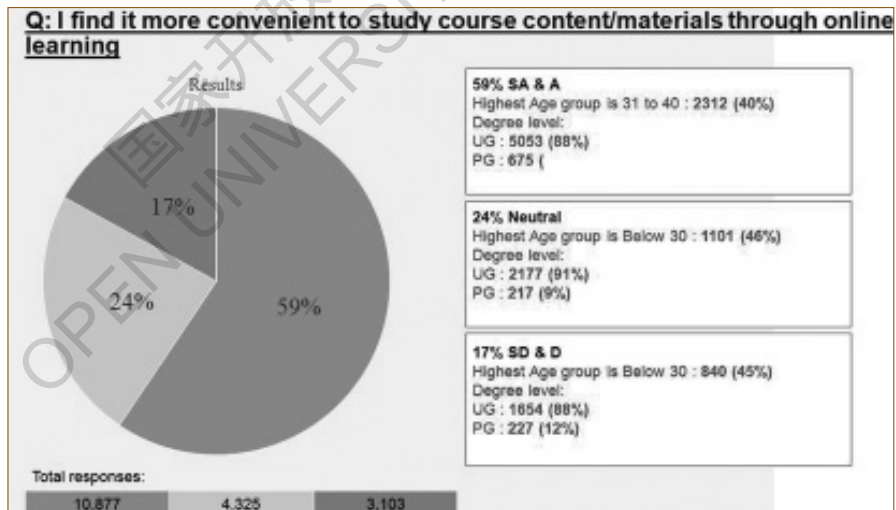


Fig. 13 The Survey Result for the Convenience to Study the Online Materials

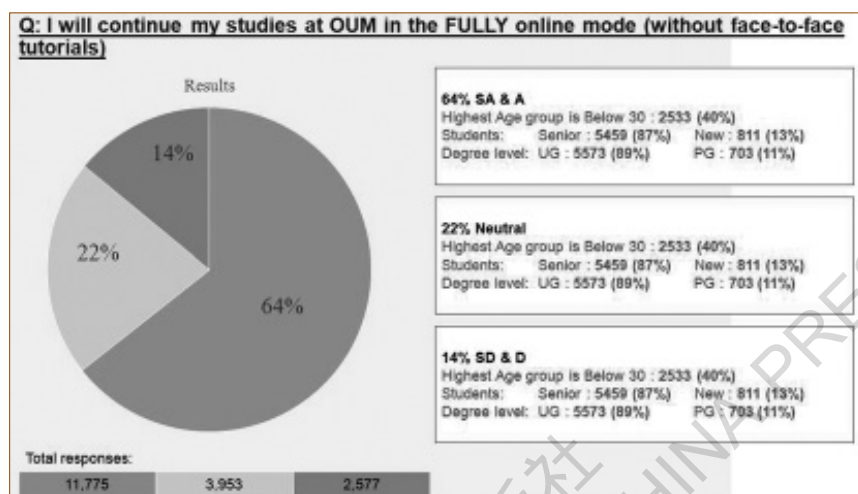


Fig. 14 The Survey Result for the Acceptance of Online Learning by the Learners

The survey findings show that the majority of learners favour the OUM's online delivery mode and they are ready for this type of learning. Some of the reasons for their acceptance include it saves time and money; ability to view recordings for revisions; online assessment/exam(s); flexible timetable; and easy to understand/learn.

3.3.4 Bridging Digital Divide in Teaching and Learning Delivery

The implementation of FOL mode went smoothly as the University was more prepared technical wise; however, it faced challenges in terms of the high number of courses that needed to be rolled out within a short period of time. One of the challenges is the preparation by both academics and learners in handling the new learning "norm". To address this, learning centres throughout the country were asked to conduct online learning tutorials for students where they were taught on how to use Google Meet video conferencing system. Academics were also being trained in IT tools and digital learning frameworks to enhance their competency on online learning design. The University also conducts workshops on OER, video editing, creating engaging e-content through HTML5 and "Open-Labs".

3.4 Enhance Support Services

A significant number of OUM learners are working adults with job and family commitments. Keeping in mind that the MCO has profound physical, mental and emotional effects on learners, the University has embarked on several initiatives to provide them with much-needed support.

The pandemic will continue to affect household finances for years to come. The University needs to actively support learners facing financial burden due to salary cuts, loss of perks and incentives, and even temporary or permanent loss of jobs. For the first four months of the MCO, OUM offered a 20% fee discount for all learners. This is followed by a 10% discount for subsequent semesters for FOL mode. OUM believes that such incentives will keep learners from deferring their studies due to financial considerations. It also advises learners to register for lesser credits, as this will lower study fees while allowing them to maintain their study momentum.

A certain percentage of OUM learners work in healthcare services and the armed forces as frontliners. From the start of the pandemic, they continue to devote their time and energy to flatten the curve. With their huge responsibility of serving the nation and completing the coursework for their studies, the University has offered a three-month deadline extension for coursework submissions, without any charges or penalty. This initiative has given them ample time to complete their coursework.

COVID-19 was first detected in the country while learners were in the middle of their January 2020 semester. It not only affected those who were supposed to attend F2F tutorials but also those who needed to do their practicum, industrial training, final-year project and PhD. viva voce. The University decided that all supervision, consultation and presentations are to be conducted online via Google Meet. Although it was challenging to the learners initially, it has now become well accepted as the new normal.

The MCO restrictions had a significant impact on the University's operations as staff have to work from home. In response, OUM has set up a virtual team whose members come from several departments and all learning centres. They have a common purpose, which is to work together in

virtual mode, via Google Meet and WhatsApp, to help learners. This coordination is required as it is quite a challenge to deliver the necessary services when everyone has to work from home. This ensures that learners get all the support and assistance they need during these trying times.

3.4.1 Digitisation

The new normal forces many industries to shift to digitisation. This is no exception to ODL universities. OUM is re-strategising its digitisation initiatives and is embracing digital transformation to increase the percentage of learner acceptance towards FOL mode. Among the initiatives are as follows:

- Develop SMART and/or automated systems with AI such as online registration/enrolment, total campus management system etc;
- Cashless university;
- Fully digital library (enrichment) and there will be no more purchase of physical books for the library;
- Develop and enhance digital learning materials/learning resources;
- E-lessons;
- Question Bank;
- Online assessment/examination;
- Performance monitoring.

With these initiatives, the University is able to initiate digital transformation in teaching and learning by:

- Providing efficient and reliable facilities and support team;
- Engaging experienced e-tutors to replicate F2F experience;
- Assigning knowledgeable and experienced staff to be in learner support team;
- Uploading attractive and a wider range of learning materials and resources;
- Conducting training and workshops.

3.4.2 Enhance Services of Learner Support Unit (LSU)

OUM provides a conducive and engaging learning environment to ensure a positive learning experience for its students. A fulfilling and enjoyable learning environment ensures that learners

stay in the system until they graduate, thereby contributing to a higher retention rate for the University.

It is crucial for the University to minimise attrition rate as this has adverse repercussions on the students, university and community at large. Attrition represents failure and demoralises students. It implies that the University has failed in fulfilling its mission and also translates in loss of revenue. Finally, for the community, it means loss of knowledge workers who could contribute to the betterment of society and wealth of the nation.

The University's major challenge is to reduce the attrition rate, particularly during the first and second semesters. In 2017, 2018 and 2019, OUM recorded attrition rates of 12.9%, 11.8% and 9.9% respectively. During the Movement Control Order (MCO) from 18 March to 9 June 2020, the attrition rate rose to 10.1%. The University sought to reduce this attrition rate through the following focus areas:

Increase Registration of Dormant Students

During the MCO, the Centre for Learner Affairs (CLA) began taking proactive steps to support learners from registration until completion of courses. Together with the University's 35 Learning Centres nationwide, CLA contacted 26% of the University's total number of learners. These learners, who had been dormant for more than one semester, were encouraged to resume their studies and were presented with incentives to do so, such as a fee discount for the semester they enrolled in.

For new learners, their first two semesters are crucial in ensuring that they remain as active students every semester until the completion of their studies. Therefore, CLA devised strategies which focused on giving these students a proper head start during their first year. This included conducting early engagement initiatives and a longer orientation programme for new learners in their first semester. These were meant to prepare them for their studies, the expectations of the University and what was expected of them so that they feel welcome and be part of the University.

Higher Traffic in the e-Customer Relationship Management

CLA provides efficient customer service for learners through its Learner Services Unit (LSU), which serves as a one-stop centre that fulfils learners' information needs and addresses their enquiries, complaints, compliments and suggestions.

Learners can reach LSU through the e-Customer Relationship Management (e-CRM), which is accessible via MYINSPIRE and the myOUM App. There are two advantages to the e-CRM: it reduces processing time for complaints, issues and enquiries, and makes it easy to access real-time data for monitoring and improvement purposes. The e-CRM system is reliable, user-friendly and mobile-friendly, thereby making it really convenient for learners.

During the MCO period from March to September 2020, OUM recorded an upward trend on the number of tickets received. As teaching and learning was conducted online, learners naturally felt more stressed, overwhelmed and confused as they had to adapt to a higher level of online engagement than usual. The majority of the tickets resolved concerned the implementation of e-Tutorials and online examination, which was a new experience to them.

Due to the high e-CRM traffic, CLA worked with the learning centres to provide a coordinated mechanism in handling learners' complaints and requests for services. The learning centres provided immediate local support to learners while CLA supported the learning centres on complex issues which required further investigation.

Employer's Satisfaction on ODL's Graduates (Tracer Studies)

Since 2006, CLA has been conducting tracer study in collaboration with MOHE. The main objective of this study is to gauge the employability and marketability of graduates. Data collection is conducted during convocations. Two significant findings from the tracer studies which have remained consistent over the years are that the majority of graduates (more than 95%) report their qualifications as a good return on investment and are willing to recommend OUM to their family and friends for further studies.

In 2020, the University began collaborating with MOHE to provide a new focus in the tracer studies on employer satisfaction, focusing on the areas of work improvement, job promotion and rewards, acquisition of new skills and re-skilling, as most OUM learners are working adults. This new study will highlight the career progression of graduates who took OUM's undergraduate and postgraduate programmes.

3.4.3 Accessibility of OUM's Website

Now, more than ever, organisations face exceptional challenges, as the effect of COVID-19 pandemic has caused major disruptions to businesses across the globe where buying activities have changed. The current digital marketing revolution ushers a new way in serving people to do online shopping as well as day-to-day interactions. Similarly, the progress in technology has changed the way education institutions work on its support services and branding efforts. We cannot overlook the importance of digital channels to deliver the most robust and real result. In terms of digital marketing, OUM used three main strategies to improve branding and promotion activities: (1) creation of a new APEL website; (2) improving visibility through search optimisation engine (SEO) ; (3) putting up advertisements in other mediums like the social media, WhatsApp, television and radio channels.

Creation of a New APEL Website

This is to attract a large portion of the market by providing all the information on APEL (A) entry requirements, modalities of assessments, describing MQF, showing success stories of alumni and explaining to the masses on how they can shorten their study time and reduce duplication of learning through the APEL (C) mechanism. It's all open resources, to promote accessibility and strengthen the lifelong learning framework in OUM. As a result, the University is able to improve overall customer services. Fig. 15 clearly shows that there are 16,000 views in the website from 11 April, 2020 to 7 October, 2020. From a simple analysis in google analytics for 179 days, it can be concluded that there are at least 89 views on a daily basis. More information can be obtained in apel.oum.edu.my.

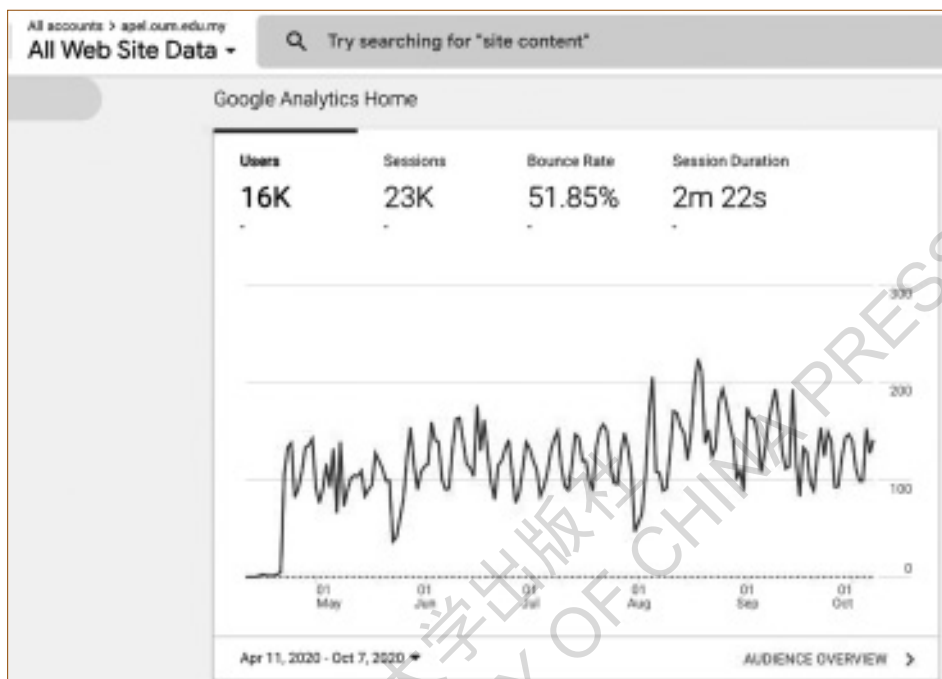
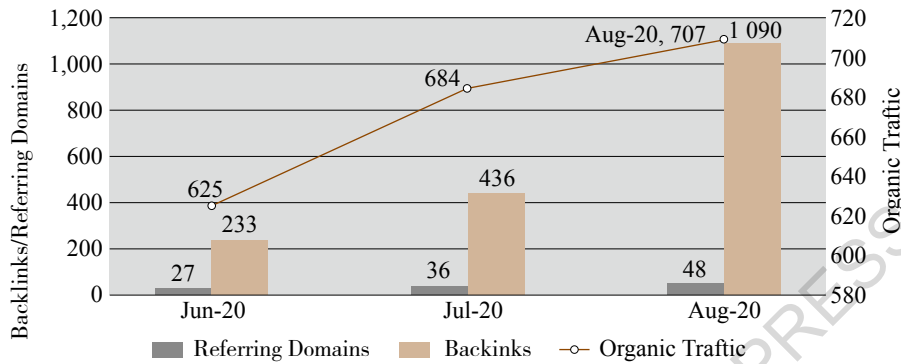


Fig. 15 Google Analytics of APEL Website

Improving Visibility Through SEO

Search engine optimization (SEO) is the process of optimizing online content so that a search engine will show it as a top result for searches of a certain keyword such as “APEL Malaysia” “part time studies” “online studies” “adult learning” and “flexible education”. These relevant words have good potential for search traffic in the field of open and distance education. There were some tactics employed to improve OUM’s SEO during COVID-19. For organic traffic to improve, content which are relevant need to be published first. During the current economic crisis arising from the pandemic, high quality SEO articles were written from home during the lockdown in view of ranking the website. Also, page speed was improved, broken links were fixed as well as images were optimised in the process of improving Google search ranks. As a result, allowing for a permanent increase in website viewing in a safe manner and engaging targets and converting them to leads. A report on SEO progress tracking is presented in Fig. 16 of this chapter to give a clearer picture.



SEO Progress Tracking shows the link building that were crawled by Google. From July to August, the backlinks increased from 436 to 1,090. This has helped organic traffic to increase from 684 to 707. By doing link building works every month, the selected keywords will be ranked and will increase the website's traffic

Fig. 16 SEO Progress Tracking Report

4. Conclusion

The COVID-19 pandemic is affecting communities worldwide especially the global economy. It is uncertain whether a vaccine can be found by 2021. Prediction of trends for 2021 and the new normal is quickly introduced. Thus, the education industry specifically the ODL universities took this as an opportunity to promote FOL mode as travel is limited locally and internationally. The Malaysian government drive and support (policies and infrastructure) are the realistic foundation and guarantee for OUM to sustain in this difficult times. International projects collaborations as well as a member of the Asian Association of Open Universities (AAOU), Commonwealth of Learning Community (COL), and Southeast Asian Ministers of Education Organisation (SEAMEO) also contributed to OUM's success and sustainable development in embracing this difficulty through innovative best practices and strategies in the higher education industry in general and the ODL market in particular.

OUM's successful measure is also the implementation of PMS that has KPIs for the staff to achieve and competencies which outcome based results are achieved and rewarded accordingly. The Business Policy Address (BPA) that is conducted annually in October is an important event for OUM where the University's performance, prediction and strategies of way forward/directions for the future is addressed to the staff. In 2020, the BPA addressed the need to innovate and strategise for students and staff to embrace technology shift to FOL mode. OUM is quick to react and adapt to globally affected economy and thus, ensure its targets and performance is achieved and sustained.

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS



Moustafa Hassan

COVID-19 pandemic proved that online education will be the mainstream method of higher education in the future and will replace the current traditional system. However, to realize its highest benefits, lifelong learning should be at the core of the planning and implementation processes to ensure prompt response to changing market needs.

Prof. Moustafa Hassan is a professor with three decades of experience in higher education in the MENA region. He assumed several academic roles in universities across the Middle East, including Dean and Provost positions. He is currently the Vice-Chancellor of International Cooperation at Hamdan Bin Mohammed University in Dubai, the first accredited online university in the GCC region. He championed the mission of HBMSU to educate the innovators of tomorrow to drive sustainable economic and social development.

Throughout his career, he established face-to-face and online academic degree programs, implemented initiatives for integrating ICT in higher education, implemented best practices for online learning, and established joint-degree programs with international universities. He implemented several faculty development programs to support faculty transition from conventional to online delivery. Currently, he leads the efforts of a group of international experts to develop and implement a benchmarking framework for technology-enhanced higher education. Prof. Hassan is an advocate of online learning in the MENA region.



Hamdan Bin Mohammed Smart University
<https://www.hbmsu.ac.ae/>

Best Practices at Hamdan Bin Mohammed Smart University

Moustafa Hassan, Vice-Chancellor for International Cooperation at Hamdan Bin Mohammed Smart University

1. Hamdan Bin Mohammed Smart University: Who Are We?

Hamdan Bin Mohammed Smart University (HBMSU) is the first accredited online university in the Arab world. His Highness Sheikh Hamdan Bin Mohammed Al Maktoum, the Crown Prince of Dubai, launched it in February 2009. HBMSU started as a Total Quality Management College (e-TQM), the only online learning institution in the United Arab Emirates (UAE). Since its inception, HBMSU has adopted a clear vision to lead the smart learning innovation for re-engineering the future of education to benefit individuals, organizations, and society. The University is committed to spreading a culture of excellence, innovation, entrepreneurship, and research through smart learning in the Arab world.

At the inauguration of the University in 2002, the Ministry of Education (MoE) did not have accreditation standards for online programs. HBMSU's pioneering vision stimulated MoE to initiate standards for accreditation of e-learning institutions in UAE as an essential pillar for re-engineering the higher education system. HBMSU collaborated with the Commission of Academic Accreditation (CAA) of MoE to identify, test, and approve the new accreditation standards released in 2005. HBMSU received accreditation of its programs in 2006 and continued to successfully be re-accredited every five years.

Rather than starting as a conventional university that provides a few online courses, HBMSU

was born as an online university. HBMSU created a vision and mission to support online learning that ensured the pedagogies, and instructional technologies resulted in a smart learning ecosystem. This system comprised of several integrated and interlinked components, including online curriculum design and delivery, life-long learning, faculty development, research and innovation, knowledge transfer, state of the art technological infrastructure, and global networks. HBMSU learners are at the center of all components, resulting in a learner-centric environment. The latter is reflected in the involvement of learners in all activities and governance systems, such as the University Council, the highest council of the University. As a learner-centric university, learners are provided with full support from the day they start their learning journey at HBMSU until they graduate. This includes but is not limited to pre-enrolment and admission support, learning resources, career planning and placement services, access to the latest educational technologies, and continuous academic and ICT support.

To serve the learner community, the University offers twenty-two accredited academic programs at four levels, from undergraduate diplomas to PhD. degrees, in three different fields of study namely, business and quality management, health and environmental studies, and educational leadership. Besides, HBMSU offers two of its academic programs jointly, one in partnership with Alexandria University in Egypt and the second with the University of Catalonia, an online university in Spain. Being an online university enabled HBMSU to source eminent subject matter experts from leading institutions in various fields of study; during the development and delivery of its programs.

Before discussing HBMSU's best practices, it's important to discuss the connection between HBMSU and its regional environment. The establishment of HBMSU in 2002 was a futuristic movement of the Dubai government, unmatched regionally by other countries, foreseeing the ultimate need for online education in the region. While the social and economic situation differs among the Middle East and North African (MENA) countries, they share many characteristics such as language, population parameters, and cultural aspects.

2. Why Online Universities Are a Priority in the MENA Region

The MENA region conjoins 19 countries and has a combined total population of 484 million, consisting of about 6% of the global population. This region has seen a monumentally rapid growth rate in the past few decades, quadrupling its population number in 50 years, and still continues to soar. It is forecasted to reach approximately 724 million people in the next 30 years. According to the World Bank, due to the elevation in life expectancy and the escalating growth rate, the region is undergoing a “youth bulge”, with two-thirds of its population below the age of 30 years. There is an inevitably elevated enrollment in the K-12 system each year, leading to increased demand for higher education organizations. Consequently, conventional universities suffer from a finite student capacity and are driven to overcrowd the halls and laboratories, since building new universities requires large funding and a considerable amount of time.

Furthermore, overcrowded classrooms complicate communication between the students and professors, and lead to a more transmissive learning experience. This approach usually promotes a stronger focus on memorization which further contributes to the inferior quality of education. While the literacy rate in MENA region ranges between 75%–80%, it's still below the world average of 86.3%; with a large gender gap, about 70 million women and 40 million men remain illiterate.

Population growth in the MENA region is coupled with the highest youth unemployment rate in the world according to studies conducted by UNICEF in 2018. Around 30% in North Africa and 20% in the Middle East of the youth population are unemployed, compared to the world average of 13%. Injaz Al-Arab's “Expand Your Horizon” initiative led an investigation to find the roots of this region's weighing issue. The survey showed a 29% unemployment rate among male graduates versus 43% among female graduates. The subjects noted that universities and governments do not provide efficient support and resources for career planning. Therefore, when choosing their higher education, youths are drawn towards more “traditional” career options and neglect alternative sectors. The result of the study also showed that a major obstacle to employment

resides in the lack of “soft skills” such as innovation, management, and communication skills, which are fundamental attributes in the current labor market. These skills are not acquired through transmissive learning, the dominant learning approach of conventional universities. Curricula in the latter are not tailored to prepare their students to work; hence about 40% of university graduates struggle to find suitable job opportunities.

With the challenges mentioned above, HBMSU’s online education model gives hope to millions in getting some form of education and be able to start a decent life. Open and online universities can accommodate a large number of learners; and will be able to anticipate and satisfy the ever-expanding demand for higher education. The online platforms enable the sharing of content, including the scarce Arabic content, between learners which will reduce the burden of educating masses of youth. Furthermore, the quality of education can be improved as the online programs include class participation, discussions, and team-building exercises that stimulate creativity, interpretation, problem-solving skills, and innovation. This approach is considered transactional and collaborative and encourages learners to challenge themselves and others during their learning. Additionally, online universities are not restricted by geographic barriers and can benefit from collaborating with professors and organizations from all over the world.

To realize the benefits of online education, good Internet infrastructure, and high Internet penetration is required. Unlike many developing countries and regions, the MENA region has shown a high average Internet penetration in the last 10 years. The average Internet penetration in the MENA region in 2019 was 67.2% versus the rest of the world average of 56.8%. However, it must be mentioned that there is high variability among populations in the MENA region with some countries such as UAE and Kuwait reaching 100% of Internet use versus countries with less than 30% such as Yemen and Libya. Countries with low use must put plans for supporting their learners to be able to reach online learning platforms before capitalizing on the benefits of online education.

Without widespread recognition and accreditation by authorities, online universities play a minor role in the region’s higher education system. Many national accrediting agencies were reluctant to accredit open or online universities; except for a very few in the region. Until recently, CAA in UAE was the only national accrediting agency with the guts to accredit an online university.

HBMSU ensured compliance with CAA strict requirements in all aspects including academic dishonesty and learners' authentication, among many more. All the University's 22 academic programs maintain academic accreditation by the CAA which mandates re-accreditation every five years.

As we gave an overview of who HBMSU is and its regional environment, it's time to focus on a few implemented best practices at HBMSU.

3. Hamdan Bin Mohammed Smart University's Best Practices

According to Merriam-Webster dictionary, a best practice is "a procedure proved by research and experience to produce superior results suitable for widespread adoption". The best practice is a way to achieve high-quality outcomes by ensuring organizations' focus on the best performers in the field and how they achieve superior results. The best practice concept is in the DNA of HBMSU, which traces its roots as a Total Quality Management College. HBMSU's focus on quality management affirms its commitment to implement the vision of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, to create a new generation of highly qualified professionals capable of competing globally in various contemporary human disciplines and knowledge.

To translate his Highness' vision into action, HBMSU focused on quality management education as the main pillar of its competitive advantage among other higher education institutions. HBMSU initiated the first academic program in quality management in UAE, that is the Bachelor of Business and Quality Management in 2006, followed by the Master of Science in Organizational Excellence in 2007. Both programs showed HBMSU's commitment to spreading the culture of quality as the backbone for economic development in the region. A PhD. degree in Total Quality Management was inaugurated in 2014 and represented the highest academic degree offered by HBMSU in the field of quality management. Furthermore, the University launched a Master's of Science degree in Innovation and Change Management in 2009 when innovation was merely a

buzzword for academia. Apart from the full academic degrees in quality management, learners in all academic programs irrespective of their fields, take one or more courses in quality management and or quality tools, including best practices' applications. Quality management education is not limited to academia but is included in most professional development and short courses offered by the University.

Internally, the University embeds the culture of quality management and excellence in all its practices and operations by establishing an integrated quality management (IQM) system to satisfy the needs and expectations of learners, faculty, and other internal and external stakeholders. The IQM system defines and regulates the different activities deployed by the University to design, develop, deliver, evaluate, and improve all offerings and services. Additionally, it is designed in accordance with local and international standards such as UAE and Dubai Government laws and regulations, CAA in UAE regulations and standards, ISO standards for Quality Management System, Information Security Management System and Business Continuity Management Systems.

There are many best practice examples at HBMSU exemplified throughout the IQM system. They cover teaching and learning, research and scholarly activities, learner services, learning resources, information technology, institutional intelligence, institutional governance, and community engagement. Describing most of them is beyond the scope of this chapter; taking into consideration that the newest best practices are being added to our portfolio continuously. Accordingly, we selected three best practices to illustrate in this chapter, categorized into before and during the COVID-19 pandemic.

3.1 Examples of Best Practices Before COVID-19

Two best practices before COVID-19 are selected for illustration in this chapter. One covers HBMSU's lifelong learning model and the other covers the establishment of the Benchmarking Framework for Online, Open, Smart, and Technology-Enhanced Higher Education.

3.1.1 HBMSU's Lifelong Learning Model

Lifelong learning continuously builds individuals' knowledge and skills throughout their

lifetime. It is not limited to specific degrees or courses but can take any form of training, tutoring, mentoring or life experience. Lifelong learning may also be defined according to Ates and Alsas as the “lifelong, voluntary, and self-motivated pursuit of knowledge for either personal or professional reasons. It enriches personal development, employability and social inclusion”.

HBMSU’s lifelong learning model provides opportunities to the community from the age of 6 to 99 to gain knowledge and skills and to contribute to the growth of the economy. The model encompasses different formal education opportunities such as academic degrees and informal ones such as short courses. HBMSU portfolio of academic programs spread from undergraduate diplomas to doctoral degrees. These research-oriented programs are highly structured and follow accreditation standards of CAA. The non-academic courses include skill-based certificates and short courses as well as professional development programs. These programs provide certification routes to participants in several fields such as excellence and business management, public health, environmental management, and smart learning.

The HBMSU lifelong learning model is abbreviated as 4Cs model according to the category of learning and is depicted in the form of a pyramid with four levels as shown in Fig. 1.

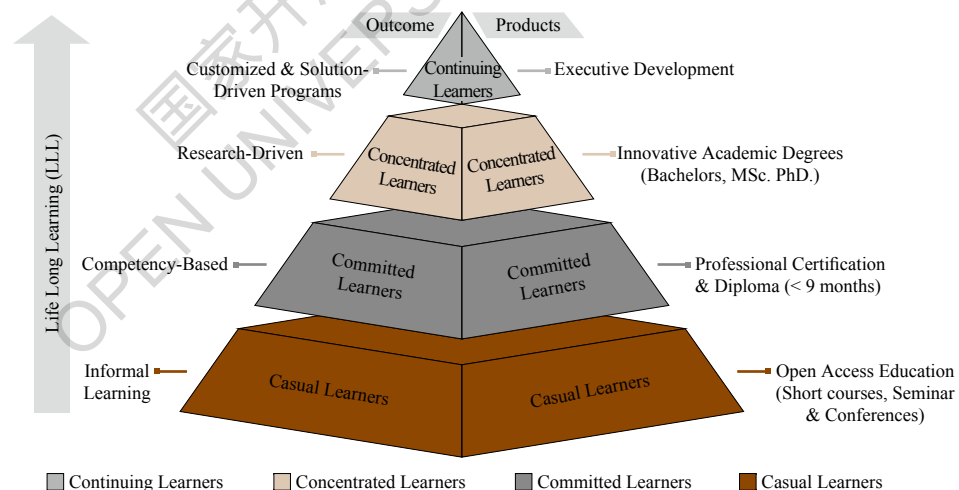


Fig. 1 HBMSU’s Lifelong Learning Model (4Cs Model)

The following section provides a more detail explanation about the 4Cs lifelong learning model.

- **Casual learners.** It is learning that does not demand any specific prior qualifications of the learner, and the programs are usually designed as general or sector-related programs. Learning takes the form of short courses, open-access programs, not-for-credit courses, and events to gain basic knowledge and skills. The duration of a short course often ranges from 8 to 40 learning hours (or about 1 to 5 days). A course may take several forms depending on the target audience, including a seminar, conference, or workshop. It can also be designed for a specific audience within an organization, or open for the general public to access a wide audience regardless of industry or participants' background. The base of the pyramid is the largest segment denoting the largest number of learners. Through its online platforms, HBMSU managed to reach hundreds of thousands of learners in this segment offering them opportunities for acquiring knowledge and skills that wouldn't be possible without significant investment in time and money.
- **Committed learners.** This segment refers to learning in specialized fields via competency-based programs and the enhancement of knowledge and development skills for meeting industry-specific needs. The duration of programs targeted for committed learners often ranges from 3 to 9 months. The structure of a committed learning program consists of formal and rigorous learning experiences that include well-defined learning outcomes at the program level; at the course level, a study plan with course syllabi, and weekly activities. In addition, committed learning programs have structured formative and summative assessments at the course or program levels. There are fewer learners in this segment than in the casual learning segment, as it targets professionals working in different fields of the economy.
- **Concentrated learners.** This refers to providing undergraduate, graduate, or doctoral programs designed to meet learners' specialized needs for research-driven academic skills improving their knowledge and career prospects. These academic programs are formally accredited by MoE in UAE. Generally, the actual length of time of a degree program depends on the specific program of study and the credit load carried per semester as prescribed by the University. The admissions requirements are important means for ensuring that target learners selected in the program are fit to enroll in their chosen areas of study. These requirements are outlined in the admissions' policies adopted by HBMSU and aligned with the MoE standards. The assessment structure depends on the nature of the programs offered, but generally it includes varieties of

formative and summative assessment strategies. The length of these programs and the strict pre-requisites reduce the number of learners in this segment.

- **Continuing learner.** This refers to custom programs designed for executives and offered in a flexible format. It provides opportunities for lifelong networking, personal growth, and professional development. Additionally, it targets executives involved in making strategic and tactical decisions in their organizations to enable them to be effective and innovative in their quest for delivering outstanding results. The number of learners in this segment is the least among all segments, as the program is being directed only towards executives.

An additional distinction of this model over other lifelong learning models is its integration within the three schools of HBMSU. The Deans of the schools are not exclusively responsible for only academic programs, but for all four segments and report on their respective achievement. Furthermore, during the design stage of new academic programs, schools should ensure the applicability of the educational material to the 4Cs model. Moreover, schools work closely with marketing and learners' services to understand the different needs of adult learners and create a flexible but well-structured entry and exit points from academic programs. The latter is supported by clear policies and guidelines that govern admission and certification; providing opportunities to select the level of knowledge and skills required according to each participant's abilities and time. The lifelong learning model of the University allows learners to progressively move from one segment of learning to the higher one. Recognition of Prior Learning (RPL) is at the center of this model and HBMSU has specific policies and procedures that govern the progression pathway.

To support the implementation of the life-long learning model, HBMSU launched an online learning platform called Cloud Campus, at <https://hbmsu.ac.ae/study/cloud-campus>. Registering on the platform is free of charge and so are many of the courses. The Cloud Campus is a convenient learning environment that has designed engaging and interactive short courses. It disseminates knowledge through various techniques including videos; some of which are as short as 60–90 seconds, using the micro-learning method for maximum knowledge retention. Furthermore, learners can rely on round-the-clock support from a team of experts and enjoy the benefits of being part of an online learning community of academics, fellow learners, private companies, and government organizations. Each course on the platform gives participants the

ability to anonymously evaluate it and the average score is transparently shown on its homepage.

While the majority of courses within the first segment of the HBMSU's lifelong learning model are free, other courses and programs are offered at different price points. As HBMSU aims to be financially self-sustaining in the coming few years, HBMSU generates revenue from several auxiliary activities including non-academic courses hosted on the Cloud Campus. Generated revenue from Cloud Campus is directed towards developing the platform, technical support expenses, digitized content development, and expert fees.

The adoption of a lifelong learning vision as an integral part of HBMSU needs to be rolled out to other higher education institutions in the MENA region. Focusing on only one segment of learners reduces the impact of higher education institutions and limits its services to a finite number of learners seeking academic degrees. The majority of the population who are in need of education and or reskilling are left behind, resulting in a disconnection between higher education output and market needs. This is evident in the bulk of unemployed graduates of conventional universities in the MENA region who are not equipped with contemporary knowledge and skills. COVID-19 pandemic proved that online education will be the mainstream method of higher education in the future and will replace the current traditional system. However, to realize its highest benefits, lifelong learning should be at the core of the planning and implementation processes to ensure prompt response to changing market needs.

3.1.2 Benchmarking Framework for Online, Open, Smart, and Technology-Enhanced Higher Education

The second best practice discussed in this chapter is the Benchmarking Framework for Online, Open, Smart, and Technology-Enhanced Higher Education, which was founded in 2019 in response to the global need for quality assurance in online education. This global initiative, jointly established by HBMSU and nine other founding members, is fundamental for achieving the UN Sustainable Development Goal on Quality Education. The initiative helps to formulate a framework for online and open universities in their continuous move to improve their education systems. The purpose of the initiative is to:

- establish a common understanding and criteria for the quality of online, open, smart, and

technology-enhanced higher education;

- develop an evaluation framework that fully reflects the quality of the work of flexible, open, and online institutions;
- facilitate sharing of best practices.

Ten prominent international associations and universities from five continents established the founding consortium for the Benchmarking Framework of Online, Open, Smart, and Technology-Enhanced Higher Education in Dubai, UAE including:

- Asia e-University;
- Asian Association of Open Universities (AAOU);
- University of Philippines Open University;
- Open Polytechnic of New Zealand;
- Commonwealth of Learning (COL);
- International Telematic University UNINETTUNO;
- The European Association of Distance Teaching Universities (EADTU);
- The Arab Network for Quality Assurance in Higher Education (ANQAHE);
- The Association of Arab Universities (AAU);
- Hamdan Bin Mohammed Smart University (HBMSU).

UNESCO-ICHEI (International Center for Higher Education Innovation under the auspices of UNESCO) and UNISA (University of South Africa) joined the consortium shortly after signing.

To put the initiative into action, the founding members appointed a technical committee which achieved two tasks. First, develop dimensions and indicators that form the benchmarking framework and agree on them using a group consensus technique, the Delphi technique. The final benchmarking framework included six dimensions as follows: teaching and learning, learner services, technology environment, outcome and impact on society, diversity and inclusiveness, and organizational aspects. A total number of 39 indicators have been selected to measure the six dimensions. Furthermore, the final framework included evidence and data sources for each indicator to standardize the measurement and reporting among consortium members. Implementation and comparison will occur in the first quarter of 2021 and create a data repository

from reported framework data. Moreover, the membership of the consortium is expected to expand and conjoin more participating associations and universities.

This initiative unites the expertise of its founding members and harnesses their accumulated experience across the globe. Establishing a worldwide benchmarking framework for open and online education institutions is a very important step that will facilitate comparison among institutions of similar missions. The currently available benchmarking and ranking frameworks were not designed for online and open education institutions, making many of their indicators irrelevant to such institutions. Having an agreed-upon framework for assuring the quality of online, open, smart and technology-enhanced education will provide newly established online universities with a roadmap of the main dimensions and indicators to focus on to ensure quality for their learners.

We take this opportunity to welcome new members from all regions of the world as well as policy-makers, experts and observers from international organizations to join the consortium to participate in raising the bar for quality assurance of open and online education. To get more information on how to join the consortium, kindly contact the International Cooperation division at HBMSU IC@hbmsu.ac.ae.

3.2 Best Practices During COVID-19

The COVID-19 pandemic imposed unprecedented challenges on education systems worldwide. The latter were disrupted and the right to education for all could not be maintained in most countries. According to UNICEF report about education during COVID-19 pandemic published on September 2020, more than a billion children have been left behind because of school closures during the pandemic. There is a need to make a radical change in the educational system to make it more resilient when faced with future uncertainties. HBMSU Chancellor, His Excellency Dr. Mansoor Al Awar, mentioned that “online learning is the strongest bet and best guarantee for the continuity of education during crises. Furthermore, radical changes in the global education system cannot be done without concerted efforts to strengthen teachers in their leading role as they are the backbone that ensure the continuity of education when challenges emerge such as the global

spread of COVID-19. Teachers need to become fully prepared and ready to provide distance learning using advanced technology while being able to manage and operate online classrooms in an effective and efficient manner”.

Once the outbreak of COVID-19 started spreading from one country to the next in early 2020, HBMSU came to the forefront with purpose-built online-learning crash courses to assist teachers in moving to online learning in the context of emergency closures of schools and universities. Investing to upgrade the online teaching skills of teachers is a prerequisite for building resilience and shaping the future of education. We highly value the educators’ role in supporting human development, and HBMSU is committed to assist educators not only in UAE but all over the world during the crises. HBMSU followed the wise vision of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President, Prime Minister and Ruler of Dubai, who said, “Teachers are the pioneers of development and the true change-makers”.

To fulfill such a vision, HBMSU developed several courses to equip teachers with essential knowledge and skills in online pedagogy and technology. The courses were available in March 2020 and hundreds of thousands of educators joined them. The Arabic version of the courses was developed in partnership with MoE in UAE while the Russian version was developed in partnership with UNESCO Institute for Information Technologies in Education (IITE) within the UNESCO IITE’s global initiative “Combat COVID-19: keep learning. Together we are on the move.”

The Global Education Coalition is a UNESCO initiative to respond to COVID-19 challenges and reduce inequalities in educational levels worldwide. It involves more than 150 members and provides an interactive and dedicated platform to support the educational needs of countries. It aims at joining forces of multiple stakeholders from private sectors, universities, non-profit organizations, and others to capitalize on the power of technology in helping stressed educational systems during COVID-19. According to HBMSU Chancellor, His Excellency Dr. Mansoor Al Awar, “HBMSU is committed to supporting UNESCO’s endeavors to improve teachers’ efficiency and ability to adapt to the latest educational methods and best practices using information and communication technology to improve the quality of education all over the world. Therefore,

we accentuate our commitment to continuously share our leading experiences in transforming the role of educators from teachers and instructors to facilitators of learning and knowledge ambassadors. This is in the core of our strategic objective for engaging learners as partners in the educational process and not as usual recipients; we aim to create a new generation of innovators, entrepreneurs, decision-makers and future builders.”

The two crash courses developed by HBMSU are as follows:

- **“Be an online tutor in 24 hours.”** This is an introductory course offering basic knowledge and skills in online education to a wide variety of educators; since we believe that specialized knowledge and skills in online pedagogy and educational technologies are the cornerstones for successful online education. The course was originally developed in Arabic and English and later translated to Russian, French, and Spanish. The course includes 3 modules covering learning management, connection and creation tools.
- **“Design an online course in 24 Hours.”** This is a higher-level course that covers the planning and designing of online lessons. The course is available in Arabic and English and has 3 modules covering planning an online lesson, designing an online lesson using Google Classroom, and designing an online lesson using MoodleCloud.

The crash courses were designed in a MOOC style format to reach the maximum number of participants from all regions of the globe. Due to the urgency of the situation in March 2020, the courses were designed to be short and focused, providing essential knowledge and skills to teachers to move to the online domain effectively and quickly. Offering the courses in multiple languages expanded the courses’ outreach. Participants wishing to obtain a certificate of completion for each course should take an end-of-course assessment plus completing a number of formative assessments throughout the course. The crash courses are completely FREE and available at <https://cloudcampus.hbmsu.ac.ae/> (Please refer to Appendix for more information about how to access the courses).

The total number of registered participants in the crash courses is 335,978 at the time of writing this chapter, coming from 109 countries. Most of the participants are from the MENA region, mainly UAE, Saudi Arabia, and Egypt. The courses have also been very popular among teachers

in Russia and The Commonwealth of Independent States (CIS-countries), with more than 3,300 teachers registered in Armenia alone (see Tab. 1). The total number of participants who received the end-of-course certificates reached 102,575 participants. Details of participation from different countries are shown in Tab. 1.

Tab. 1 Number of Learners in Each Country

S/N	Country	Number
1	United Arab Emirates	76,071
2	Saudi Arabia	4,274
3	Armenia	3,337
4	Egypt	3,111
5	Kuwait	2,924
6	Bahrain	2,498
7	Jordan	1,686
8	Oman	1,488
9	Iraq	1,405
10	Syria	951
11	India	687
12	Morocco	680
13	Palestinian	573
14	Sudan	333
15	Lebanon	321
PS	94 countries, each	1–170

We at HBMSU value the participants' feedback as a prerequisite for continuous improvement. Accordingly, the Cloud Campus platform encourages participants to rate attended courses. Each course transparently shows the number of voluntary evaluations by participants and its average

rating. Crash courses achieved evaluations above four on a scale of five stars.

4. Conclusion

Sheikh Zayed Alnahyan, the founding father and the principal driving force behind the formation of UAE said that the “The credit of any developed nation is its educated children, and the advancement of people and nations is measured by the status and reach of their education.” HBMSU continues to support and spread the culture of excellence, innovation, and entrepreneurship among youth in the MENA region. The University envisions a new education system that leverages the advantages of online education for the benefit of all global communities. And, to achieve such benefits, implementing best practices is at the core of HBMSU’s operations.

References

- ALTMANN J, 2019. Arab world turns page on literacy. [2021-01-19]. <https://www.jpost.com/middle-east/arab-world-turns-page-on-literacy-589769#/>.
- Anon, 2015. UNICEL middle East and north Africa. [2021-01-19]. <https://www.unicef.org/mena/press-releases/school-enrolment-middle-east-north-africa>.
- Anon, 2020. Education and Covid-19, September 2020. [2021-01-19]. <https://data.unicef.org/topic/education/covid-19/#:~:text=More%20than%201%20billion%20children,been%20implementing%20remote%20education%20programmes>.
- Anon, 2020. HBMSU becomes MENA region’s first educational institution to migrate its full systems and applications to AWS cloud. [2021-01-19]. <https://www.hbmsu.ac.ae/news/hbmsu-becomes-mena-region%E2%80%99s-first-educational-institution-migrate-its-full-systems-and>.
- Anon, 2020. Mansoor Al Awar calls for investing in leadership and professional skills of teachers being the cornerstone of education in the future. [2021-01-19]. https://www.zawya.com/mena/en/press-releases/story/Mansoor_Al_Awar_calls_for_investing_in_leadership_and_professional_skills_of_teachers_being_the_cornerstone_of_education_in_the_future-ZAWYA20201011100233/.
- Anon, 2020. Merriam-Webster dictionary definition of best practice. [2021-01-19]. <https://www.merriam-webster.com/dictionary/best%20practice>.

Anon, 2020. Total MENA population 1990- 2050. [2021-01-19]. <https://www.statista.com/statistics/978535/mena-total-population/#:~:text=Total%20MENA%20population%201990%2D2050&text=The%20total%20population%20in%20the,to%20reach%20about%20724%20million>.

Hamdan Bin Mohammed Smart University Website 2019. Working to ensure that all children in the region have equitable opportunities to quality and relevant education. [2021-01-19]. <https://www.unicef.org/mena/education>.

HAYDAR A, KADIR A, 2012. The importance of lifelong learning has been increasing. *Procedia - social and behavioral sciences*, 46: 4092 – 4096.

UNESCO Institute for Statistics, 2020. Literacy rate in the MENA region. [2021-01-19]. <https://data.worldbank.org/indicator/SE.ADT.1524.LT.ZS?locations=ZQ>.

Appendix

Participants can access the courses through the following links:

- **Be an Online Tutor in 24 Hours**
 - English, <https://cloudcampus.hbmsu.ac.ae/course/view.php?id=4>
 - Arabic, <https://cloudcampus.hbmsu.ac.ae/course/view.php?id=5>
 - Spanish, <https://cloudcampus.hbmsu.ac.ae/course/view.php?id=13>
 - Russian, <https://cloudcampus.hbmsu.ac.ae/course/view.php?id=15>
 - French, <https://cloudcampus.hbmsu.ac.ae/course/view.php?id=14>
- **Design an Online Course in 24 Hours**
 - English, <https://cloudcampus.hbmsu.ac.ae/course/view.php?id=6>
 - Arabic, <https://cloudcampus.hbmsu.ac.ae/course/view.php?id=7>

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS



Dr. Daniel Tau

BOU's vision is "to be an innovative open university globally recognised for academic excellence, lifelong learning and societal impact." Its core values are excellence, student centredness, equity, integrity, academic freedom, accountability, collegiality, and compassion.

Dr. Daniel Tau has successfully steered BOCODOL's (Botswana College of Distance and Open Learning) transformation into the Botswana Open University. Under his leadership, BOCODOL was conferred with the Award of Excellence for Institutional Achievement in Distance Education by the Commonwealth of Learning (COL) in 2006. Between 2000 and 2012, he was a member of the Botswana Vision Council under His Excellency, the President of Botswana, and was its Chairperson from June 2005 to June 2012. He was also Chairperson of the Botswana National Sports Council from 2008 to 2011. His research interests include Educational Management, Education Policy and Strategies for Sustainable Open and Distance Learning. Dr. Tau obtained his Doctor of Education in 2006. He was conferred with the Presidential Order of Meritorious Service in September 2011, and African Education Leadership Award in November 2013.



Botswana Open University
<http://www.bou.ac.bw/>

Botswana Open University in the Post-COVID 19 Era

Daniel Tau, President of Botswana Open University; Gbolagade Adekanmbi

1. Introduction

The emergence of the COVID-19 pandemic has been traumatic, causing very high rates of infection and death across the globe. The World Health Organisation (WHO) notes that as of 16 November 2020, there were 54,301,156 confirmed cases and 1,316,994 deaths (World Health Organisation, 2020). In Africa, there were 1,404,954 confirmed cases and 31,554 deaths while in Botswana, there were 8225 confirmed cases and 27 deaths. Apart from the Spanish flu of 1918–1919, which infected 500 million people and killed over 50 million worldwide (Center for Disease Control and Prevention, 2019), no other reported health problem has had as much negative impact on the world as COVID-19. Its negative effect on workers in diverse fields, including education is unparalleled. Global interventions by the United Nations (UN), the International Labour Organisation (ILO), the World Bank, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and WHO have been extensive. UNICEF (United Nations International Children's Emergency Fund), among other bodies, has published various documents that include the actions that schools should follow to mitigate the pandemic (UNICEF, 2020). More importantly, the pandemic has underscored the need for societies to be open and supportive of one another. Many have instituted measures for assessing their capacity to address major national emergencies.

As reported by the ILO, large scale workplace closures have led to reduced work hours, often up to 10.7% globally, with an overall loss of 305 million jobs globally (ILO, 2020). As of the first, second and third quarters of 2020, Africa lost 1.9%, 15.6% and 14.2% working hours respectively

(ILO, 2020). Within the same period, countries in Southern Africa lost correspondingly, 0.5%, 20.3% and 14.2% working hours (ILO, 2020). According to Li and Lalani (2020), 1.2 billion children were out of the classroom as a result. Globally, 50% of learners have reported programme completion delays while as many as 10% of the students did not hope to complete their studies (ILO, 2020).

The World Bank has described COVID-19 as “the largest simultaneous shock to all education systems in our lifetimes” (2020a)⁵. The pandemic is seen as “a crisis that was not equally distributed, the most disadvantaged children and youth have the worst access to schooling, highest dropout rates, and the largest learning deficits” (World Bank, 2020a)⁵. The Bank adds that “even before the pandemic, the world was living a learning crisis” (2020a)⁵ and that “The learning poverty rate in low- and middle-income countries was 53 percent—meaning that over half of all 10-year old children could not read and understand a simple age-appropriate story” (2020a)⁵. With 85% of the student global population out of school in the early days of this pandemic, “the twin shocks of school closures and global recession could have long term costs to education and development, if governments do not move to counter them” (World Bank, 2020a)⁵.

Botswana has not been spared the onslaught of the pandemic. The overall effect on the economy, education, and people and their health has been enormous. For various reasons, the impact on the society has not been as serious as in some parts of world, due, in part, to the government’s quick intervention, and the active participation and support of the citizenry for initiatives aimed at addressing the pandemic. Nevertheless, there is an expected rise in student dropouts. Learning itself has suffered; economic problems have emerged; and teachers as well as students have been affected. Prior to the full re-opening of Botswana’s schools on 28 May, 2020, 33,525 pre-primary, 344,618 primary, 168,220 secondary and 49,444 tertiary education students had been affected by the mandatory school closure (UNESCO, 2020).

The World Bank (2020a) notes that the shocks of COVID-19 can be countered and turned into opportunities. This resonates with the position of the Botswana Open University (BOU) to keep the doors of learning open and to explore strategies to ensure an efficient response to both BOU learners, and to maintain the role of the University as a mentor to Botswana’s educational

institutions. These related issues have led to the need to explore the place of BOU, as it navigates the current situation and pursues new visions and goals, aimed at making itself relevant to its clients, the nation and the global community. BOU is one of the seven public open universities in Africa and of the over 100 such universities in the world. Tait (2013), while examining the mission of open universities, globally, has noted their tendency to promote social justice, equity, inclusiveness, and transformation. These laudable promotional goals, and the issues already mentioned, make it necessary to explore how BOU has responded to the pandemic.

Accordingly, this chapter examines the future of BOU in the context and aftermath of COVID-19. It examines how BOU mitigated its effects. Specifically, it examines how teaching and learning in the institution proceeded against the background of BOU's history, mission, vision and strategic plans. The chapter also explores the future thrusts of the University and makes recommendations on how it can enhance its presence, achieve its strategic objectives and make itself a university of first choice for its clients.

2. The National Context

Botswana is bordered by South Africa to the south, Namibia to the north and west, Zimbabwe to the north east, and Zambia to the north. With a population of over 2.3 million, Botswana, notable for its good governance, is a success story. Its current Gross Domestic Product per capita is US\$ 7,961.338 (World Bank, 2020b). The nation has a low corruption perception index, only outpaced by the Seychelles in 2019 in sub-Saharan Africa (Transparency International, 2020); a high literacy rate of 88% for those 15 and older; and a tertiary school enrolment ratio of 25% in 2017, thus reflecting a very high standing in higher education in Africa. Thus, Botswana, with “more than five decades of uninterrupted civilian leadership” is “one of the most stable economies in Africa” (CIA, 2020)¹.

Botswana was generally poor when it gained independence from Britain in 1966. For example, it had fewer than 18 kilometres of tarred roads. With the discovery of diamonds and other minerals, however, and with the careful management of the minerals, its economic outlook

grew. The nation, now the envy of its neighbours, has been on a positive development trajectory since. This has been due, in part, to Botswana's National Development Plans, fashioned after the people's *kgotla* system. The system allows people to gather in traditional meeting areas to engage in healthy debates and arrive at a consensus. Notable also is the nation's *Botho* philosophy, which espouses courtesy and a spirit of community, and has been handy in the nation's march to progress. The country relies extensively on revenue from the minerals, a growing tourism industry and a strong desire to open the economy to investors. The country's labour participation rate is 73.1%, according to the World Bank (2020b).

Botswana has made giant strides in the use of technology. Internet access (and usage) is 37.9% and access to fixed telephone lines 6.2%. The statistic for mobile phones is 141.4 out of 100 [International Telecommunications Union (ITU), 2018]. Also, 22.6% of the households in the country have a computer. Indeed, compared with its neighbours, including South Africa, Botswana is doing very well in key information indicators. The Maitlamo Technology Policy, launched in 2007 (Republic of Botswana, 2007), promotes the growth of a knowledge-based economy, promotes economic diversification, provides access to information for the citizenry and speeds up cultural, political and social transformation (Republic of Botswana, 2007). Tab. 1 shows the position of Botswana on key information indicators when compared with other countries in sub-Saharan Africa.

Tab. 1 Key Information Society Indicators for Eight Sub-Saharan Countries

	Country	a	b	c	d	e	f
S/N		Fixed telephone per 100 people	Mobile phone per 100 people	Individuals using the Internet (%)	Households with Internet access (%)	Households with a computer (%)	Active broadband per 100 people
1	Botswana	6.2	141.4	37.9	35.5	22.6	66.9
2	South Africa	6.4	162.0	56.2	60.7	21.9	70.0
3	Nigeria	0.1	75.9	27.7	17.8	8.1	74.4
4	Ghana	1.0	127.5	N/A	N/A	N/A	83.2
5	Kenya	0.1	86.1	17.8	33.7	7.2	19.9

(Continued)

	Country	a	b	c	d	e	f
S/N		Fixed telephone per 100 people	Mobile phone per 100 people	Individuals using the Internet (%)	Households with Internet access (%)	Households with a computer (%)	Active broadband per 100 people
6	Tanzania	0.2	69.7	16.0	14.4	4.0	8.7
7	Rwanda	0.1	72.2	21.8	9.3	2.5	35.0
8	Uganda	0.6	58.2	23.7	10.8	2.5	35.0
PS	Sub-Saharan Africa	0.9	74.4	22.1	19.4	8.5	23.4
	World	13.0	103.6	48.6	54.7	47.1	61.9

Source: Adekanmbi, G. (2021); ITU (2018).

In education, Botswana's current literacy rate for the nation's adults, 15 years old and above, is 88% while the percentage of trained teachers at the primary school level is 99% (CIA, 2020; World Bank, 2020b). Various policy developments in the region hint at the technology-oriented future of open and distance learning. Technology is likely to impact education positively in Botswana.

The nation's growth in the education sector has benefited from, among others, the goals espoused in the Botswana constitution; the Vision 2016 and Vision 2036 documents; the National Development Plans, now in its 11th phase; the 1993 Report of the National Commission on Education and the resultant white paper; the Revised National Policy on Education of 1994; the National Training Policy of 1997; and the Revised National Youth Development policy of 2010. The growth has also benefited from the Tertiary Education Policy of 2008, the 2015–2020 Education and Training Sector Strategic Plan (ETSSP) and the National Human Resource Development Strategy 2009–2022. At the regional level is the Southern African Development Community (SADC) (1997) Protocol on Education and Training, which enjoins member countries to use technologies to access and promote education. Botswana serves as the headquarters of SADC and is a signatory to the protocol.

Botswana uses the 7–3–2–4 education system. Children spend 7 years, 3 years, 2 years and, generally, 4 years in primary, junior secondary, senior secondary and tertiary institutions respectively. In 2015, there were 826 primary schools, with 91.4% of them being public and 8.6% being private (Statistics Botswana, 2018a); and 293 secondary schools (Statistics Botswana, 2018b). For tertiary education, there are, currently, 58 brigades, 8 technical colleges, 4 colleges of education, 7 institutes of health sciences, 4 public universities and 3 private universities in the nation (Human Resource Development Council, 2019).

3. The Botswana Open University

As already indicated, BOU is one of the seven such public open universities in sub-Saharan Africa, and one of the over 100 open universities, globally. Others in Africa are Sudan Open University, Zimbabwe Open University, the Open University of Tanzania, University of South Africa, the National Open University of Nigeria and the Mauritius Open University. BOU emerged from an earlier arrangement when its core distance education activities were carried out by the then Division of Distance Education within the Department of Non-Formal Education. As reported by Youngman (1980), the Botswana Extension College was established by the government in 1973 through the funding provided by the Ford Foundation. Located in the then Department of Non-Formal Education (currently Department of Out of School Education and Training), the College organised open and distance learning programmes for school certificate level students. When the funding by the Ford Foundation dried up, the College was absorbed by the Department of Non-Formal Education (Dodds et al., 1994) through which it continued to promote distance learning. Following the recommendations of the National Commission on Education in 1993, this distance education division became the Botswana College of Distance and Open Learning (BOCODOL) in 1998, through an Act of Parliament. In 2017, BOCODOL was also by an Act of Parliament established as BOU..

The nature of the transformation of BOCODOL into BOU is reflected in a book edited by

Modesto and Gatsha (2017) aptly titled: *The Road to Botswana Open University 1998–2017*. Currently (2020–2021 figures), there are 7,715 tertiary level enrollees. It operates from five main campuses, namely, Gaborone, Francistown, Palapye, Maun and Kang. It has four schools: Education, Business and Management Studies, Social Sciences and Science and Technology. Some of its centres are: Centre for Graduate Studies, Centre for Research and Innovation, Centre for Open Schooling and Centre for Continuing Professional Development.

3.1 Vision, Goals and Strategic Plan

BOU's vision is "to be an innovative open university globally recognised for academic excellence, lifelong learning and societal impact"^①. Its core values are excellence, student centredness, equity, integrity, academic freedom, accountability, collegiality, and compassion (Botswana Open University, 2019a). This vision is placed within the contexts of the nation's Vision 2036; the United Nation's Sustainable Development Agenda, encompassing its 2030 goals; and the African Union *Agenda 2063: The Africa We Want*. The University's Strategic Plan is synchronised with the National Development Plan 11 (2019–2023). BOU has a Strategic Framework which is synchronised with Botswana's Vision 2036. Thus, Botswana's goal of becoming a high-income economy, "with an export led economy underpinned by diversified, inclusive and sustainable development growth driven by high levels of productivity" (Republic of Botswana, 2016)¹², is fully embraced by BOU. The core parts of the Vision to which BOU subscribes are sustainable economic development; human and social development; sustainable environment; and governance, peace, and security. With this Framework, the University aims to make its impact and achieve its current strategic plan.

As Fig. 1 shows, BOU plans to have achieved the following milestones by 2036: A technology-enhanced open university (2019–2023); an inclusive university (2023–2028); a high-performance open university (2028–2033); and a globally recognised open university (2033–2036).

① Botswana Open University, 2019a. BOU 2036 strategic framework, 14.

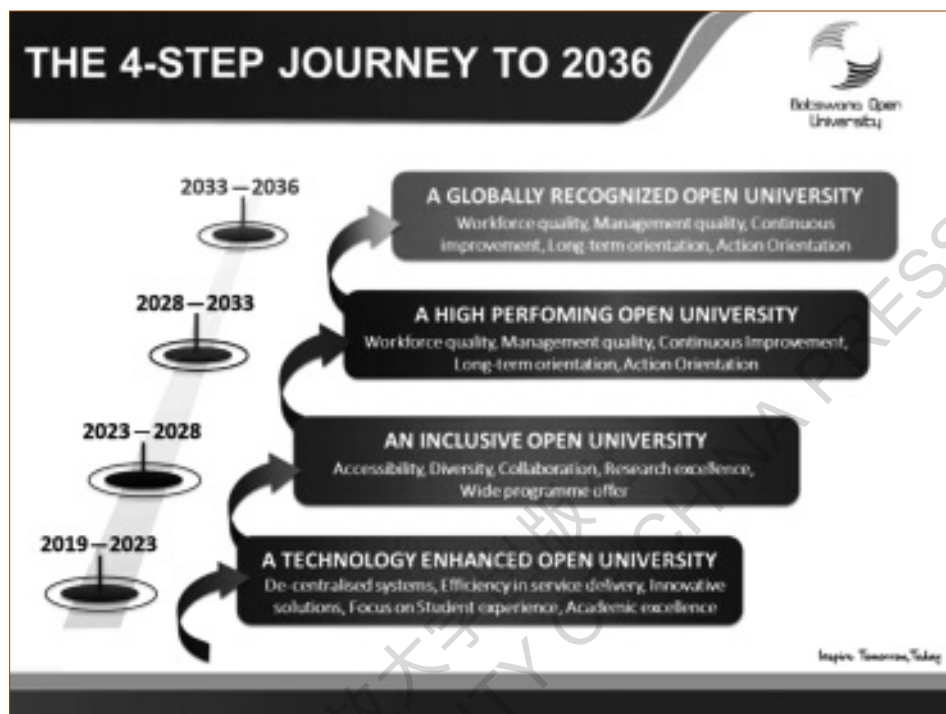


Fig. 1 Botswana Open University 2036 Roadmap

Source: Botswana Open University (2019a). Strategic Framework.

3.2 Teaching, Learning and Research

In the broad strategic framework, five thematic objectives are noted:

- Learning and teaching;
- Student and stakeholder engagement;
- Research, innovation and sustainable development;
- Open education, entrepreneurship and employability;
- Governance and leadership.

It should be noted that BOU has a suitable and unique learning experience for its students.

It employs a flexi-learning approach, a blended learning model which utilises print modules uploaded unto the student portal and occasional face-to-face virtual meetings, where students and staff chat, discuss online, using various resource links availed through the portal. Occasional visits are also made to the regions for research boot camps. During their research, students collect field data while others are placed in internship programmes. Part-time tutors facilitate the various courses through their departments and schools. In meeting its student and stakeholder engagement agenda, BOU collaborates with stakeholders, including its alumni.

Since 2017, BOU has put in place a total of 20 new academic policies aimed at enhancing academic practice. The list of policies is provided in Tab. 2.

Tab. 2 Botswana Open University Academic Policies

S/N	Name of policy guideline	Effective date
1	Academic Integrity Policy	1 July, 2011
2	Policy Criteria and Procedures for the Promotion and Appointment of Academic Staff	1 September, 2018
3	Research and Innovation Policy	1 September, 2018
4	Research Ethics Policy	1 September, 2018
5	Quality Assurance Policy	1 September, 2018
6	Programmes Development and Review Guidelines	1 June, 2019
7	Academic Programmes Development and Review Policy	1 July, 2019
8	Learning Analytics Policy	1 July, 2019
9	Strategy for Technology-Enhanced Learning, Teaching, Assessment and Student Support (STELTASS)	7 November, 2019
10	University Research and Innovation Fund Guidelines	20 February, 2020
11	Senate Code of Conduct	21 February, 2020
12	OER (Open Educational Resource) Policy	7 November, 2019
13	STELTASS Policy	7 November, 2019

(Continued)

S/N	Name of policy guideline	Effective date
14	STELTASS Implementation Plan	1 October, 2019
15	Internationalisation Policy	12 March, 2020
16	The BOU E-Tutor Model	1 October, 2020
17	Guidelines on Parameters for Plagiarism Software	1 January, 2021
18	Work-Based Placement Guidelines	1 July, 2018
19	Conference Fund Guidelines	1 April, 2019
20	BOU General Academic Regulations	1 August, 2020
21	Intellectual Property Policy	5 November, 2020

Source: Botswana Open University (2020a). BOU Policies.

The Centre for Research and Innovation coordinates the research activities of staff. It creates opportunities for them to engage in research and motivates them by providing support. The goal is to focus on a range of thematic areas, including indigenous knowledge systems, sustainable development and technology enhanced learning. Collaborative research is also expected to be a major undertaking. The University subscribes to the use of OER, and some of its programmes already benefit from these.

In its academic activities, BOU has vigorously pursued academic excellence through staff training, adoption of BOU statutes and approval of the Policy, Criteria and Procedures for the Review and Appointment of Academic Staff. It has revised its remuneration package and created a separate four band academic pay structure. Related to this, the Performance Management Structure contract for academic staff was instituted and an Academic Staff Allocation Formula developed and implemented. Currently, new job descriptions have been proposed. In addition, a task force was set up in August 2020, and its work commenced in October 2020. Its terms of reference, approved by the Executive Management Team, and slightly paraphrased here, (Botswana Open University, 2020b) include:

- Review of job descriptions for academic ranks and the position of Dean and Head of Department;
- Review of the performance management system with respect to academic staff;
- Review of the Policy, Procedures and Criteria for the Promotion and Appointment of Academic Staff;
- Review of the training and staff development policies and practices;
- Proposing a mentoring strategy for academic staff;
- Identification of gaps and consideration of any other area of relevance to the task group;
- Development of an Academic Staff Attraction and Retention Strategy along with an Implementation Plan.

BOU aims to promote the culture of good governance, sound policy processes, quality assurance and transparency. It also aims to allocate its resources fairly and to attract and retain human and other resources to fulfil its mission. To this end, it plans to respect and integrate the nation's "constitutional democracy, human rights and rule of law in its programmes and services"^①. It also aims to align its academic activities to achieve prosperity for all, as Vision 2036 envisions.

Over the years, and as part of the fulfilment of its mission and vision, BOU has enrolled students, started new programmes, including graduate programmes, and had tremendous impact on the nation. Tab. 3 shows the trend in the enrolment of students into all programmes over an eighteen-year period. In the 2019/2020 academic year, over 7,000 students enrolled for tertiary level programmes. This represents an increase of about 22% over the projections of the previous year. Notably, the number of new programmes has also increased. They include the Diploma in Integrated Early Childhood Development (DIECD), Commonwealth Executive Master's in Business Administration (CEMBA), Commonwealth Executive Masters in Public Administration (CEMPA) and Master of Education in Educational Leadership and Management (MEDEL)^②. In addition, there has been an increase in the number of students enrolling in the continuing professional development section.

① Botswana Open University, 2019a. BOU 2036 strategic framework, 11.

② Botswana Open University, 2019b. Integrated annual report 2019/19.

Tab. 3 Enrolment Statistics for 2018/2019 and Trends from 2000

Year	JC	BGCSE	Cert.	Dip	Degree	P/Grad	Total	MOS	SCrs	Total
2000	687	1,394	0	0	0	0	2,081	0	0	2,081
2001	555	1,225	0	0	0	0	1,780	0	0	1,780
2002	1,093	2,665	0	0	0	0	3,758	0	0	3,758
2003	1,178	2,994	0	0	0	0	4,172	0	0	4,172
2004	951	3,687	524	0	0	0	5,162	0	0	5,162
2005	1,467	3,957	910	0	0	0	6,334	0	0	6,334
2006	832	3,583	877	0	0	0	5,292	144	0	5,436
2007	1,188	4,919	687	538	0	0	7,332	597	0	7,929
2008	952	4,169	242	540	0	0	5,903	451	0	6,354
2009	1,060	4,286	356	643	0	0	6,345	377	0	6,722
2010	1,326	3,836	420	912	187	20	6,701	349	0	7,050
2011	885	3,658	323	1,296	253	28	6,443	147	0	6,590
2012	687	4,072	211	1,086	748	21	6,825	269	42	7,136
2013	2,890	8,997	441	845	435	0	13,608	162	120	13,890
2014	3,563	12,287	391	2,717	1013	120	20,091	128	44	20,263
2015	2,699	10,165	406	999	434	124	14,827	76	156	15,059
2016	2,413	9,350	313	1,126	467	264	13,933	118	83	14,134
2017	2,084	10,482	651	1,024	589	152	14,982	72	15	15,069
2018	2,068	9,940	444	1,258	548	237	14,495	44	35	14,574
Total	28,578	105,666	7,196	12,984	4674	966	160,064	2,934	495	163,493

Key: JC=Junior Certificate, BGCSE=Botswana General Certificate of Secondary Education, MOS=Microsoft Office Suite, SCrs= Short Courses, Dip=Diploma

Source: Botswana Open University (2019b). Integrated Annual Report.

The SADC Centre for Distance Education has also made its impact felt. It is involved in various capacity building initiatives, supporting networking initiatives, promoting collaboration and advocacy work in the region, and strengthening of the Commonwealth of Learning (COL) regional centres. Various short- and long-term projects, including the gender mainstreaming project and capacity building through the Certificate for Distance Education Practitioners (CDEP) programme, have been embarked upon. The CDEP programme has been supported through the Centre for Students from Eswatini, Lesotho, Botswana, Mauritius, Mozambique, Seychelles, Malawi and South Africa. Also, various Massive Open Online Courses (MOOCs) have been sponsored and supported, in addition to consultancies, webinars and other online training programmes.

In sum, tremendous progress had been made in the activities of BOU, in all sectors, until COVID-19 struck. We shall briefly explore the advent of the pandemic and discuss how BOU responded to it.

4. Measures, Lessons and New Strategic Directions of BOU After COVID-19 Struck

4.1 Measures Taken

When COVID-19 struck, it disrupted school-based activities in Botswana and other parts of the world. For example, it disrupted the coverage of the syllabi and examinations in schools, including the tertiary education institutions. Many children became idle and it was feared that they would become involved in antisocial behaviour. Unconventional educational strategies were then required to mitigate the debilitating effects of COVID-19.

As part of a national strategy to mitigate the adverse effect of the virus, a lockdown, which affected all the schools, including all tertiary institutions, was ordered by the government of Botswana. The government put in place measures aimed at addressing the immediate challenges the public faced. They included extreme social distancing for 28 days, from 3–30 April, 2020, which was later extended to 7 May, 2020. A second phase of the lockdown was effected from 8–14

May, 2020. A third phase which would have been from 15–22 May, 2020 did not materialise. Because of the lockdowns, BOU put together a plan to ensure the completion of the 2019–2020 second semester, and a successful start of the 2020–2021 first semester. Meanwhile, the government added a state of emergency that lasted for six months.

With the lockdown, BOU could no longer interact directly with the students. Specifically, COVID-19 disrupted Semester 2 of the 2019/2020 academic session and delayed its conclusion, and it disrupted the handling of students' assessments. It also disrupted students' admission, selection and registration, as well as enrolment and registration of open schooling students for the Junior Certificate (JC) and BGCSE examinations, billed to begin in October 2020. Nevertheless, the goal for BOU was to still pursue a blended learning plan, which, as a distance education mode, allowed elements of online learning with occasional doses of face-to-face interaction. Ultimately, BOU intensified its online presence and pursued the use of online assessment for the remaining part of Semester 2. The academic and student support sections were put into the online environment. Following this, the e-tutor model was also developed. Having the BOU STELLTASS Policy before COVID 19 struck became very useful. Rather than wait for 2023 to implement its core technological component of going fully online, the University implemented it immediately.

In the process, critical uncertainties and risks were highlighted, in response to the government's desire to ensure that educational programmes in the country continued uninterrupted. There was need to determine the manner of social distancing and the possible effect it would have on admission, registration, tutoring and related activities. As examinations could no longer be held in designated venues, the need for alternative summative assessments was considered. The University was worried about tutor connectivity, and how tutors would teach and mark online. Student connectivity and its impact on learning, interaction and online assignment submission, and how online alternative summative assessments would be done were also key considerations. BOU considered how its plans may affect part-time tutors and related stakeholders, who after the lockdown, would also need to return to their primary employment and may therefore not be immediately available to work for BOU on a part-time basis. There was also a need to confirm with the Botswana Examinations Council the status of the JC and BGCSE examinations, whether

students could afford fees and write, due to the economic challenges caused by the lockdown. A key uncertainty was what would happen to face-to-face tutorials, a major component of the blended learning approach.

To address the challenges, the University Management opted for scenario planning. The scenarios reflected a series of actions to be taken, mostly in the determination of new dates for various events, based on the University's knowledge of the government restrictions, the need for extreme social distancing measures and the need to mitigate the health effects and hazards of the pandemic. Most options were tied to having classes and meetings, both of staff and students, online. The possibility of having face-to-face meetings in some of the situations was not ruled out. However, as planning continued, everything was pointing in the direction of full online learning. As the online leaning option was being considered, students complained about lack of technology with which to fully participate in the new plans. They preferred to submit their scripts physically, something they were used to. In addition to connectivity problems, tutors also complained of how they would mark scripts online, record marks, and of increased administrative work. As mitigation, the Centre for Teaching and Learning and various departments organised training programmes for staff and students. Some funds were also set aside to enable part-time tutors to pay for data bundles used while on the Internet with students.

With respect to Internet connectivity outside of work for full time staff, not all of them needed support beyond their office activities. Nevertheless, financial assistance was provided for such staff to buy data bundles to be connected at home for their work to continue. The Working from Home Policy, effective from 24 March, 2020, outlined expectations for staff and the University (Botswana Open University, 2020c). It became necessary to transfer much of the previous work of the University to the online platforms.

The impact of COVID-19 on research was two-pronged. Most ongoing research by staff was supposed to be on the field. Studies which could be moved online were of the tracer study type, but, generally, it was difficult to move online those research activities requiring observation of events and subjects, interviews, and distribution of questionnaires in schools. For students, it was difficult for them to get to schools and other sites to obtain data or conduct interviews and

administer questionnaires. The only mitigation was to extend the submission dates for students' research and wait for when schools and other designated places of research observations would reopen, based on the government relaxation of the extreme social distancing rules. Staff also had to wait, except in desktop-based research activities.

Similarly, while the internationalization of activities was ongoing, it was greatly affected. The partnership activities of the University with the COL, the Open University of China, University of South Africa, and others ground to a halt. Planned conferences also took a hit although online meetings via Zoom and Google Meet were held. However, adjustments needed to reach their full potential are being explored and implemented.

Beyond meeting BOU needs, the University decided to make its tertiary content available online to students in the public schools and universities. BOU's open schooling materials were made available electronically to secondary school students through the Ministry of Basic Education (MOBE). Mobile telephone and Internet service providers were invited to assist in ensuring that BOU had access to its platforms through a free data/zero rating arrangement, something MASCOM participated in up till September 2020. The free access was limited to the state of emergency period for BOU students, but plans are on to explore post lockdown partnerships.

As part of the COL/COURSERA workforce Recovery Initiative, 1,200 Batswana were enrolled, without having to pay, into the 380 employability courses in 400 specializations. This was facilitated by 200 leading universities worldwide and the courses targeted the unemployed and those who lost their jobs because of the pandemic.

4.2 Some Useful Lessons

Various authors have made submissions on different aspects of the pandemic, its effect on workers and higher education and the need to be careful in managing the shocks arising therefrom. One such writer, Ho (2020), observes some mistakes which universities often make in strategizing for higher education amid a pandemic. They are allowing a crisis response to crowd out attention of other strategic moves, ignoring the enhancement of digital capabilities and making decisions that

tend to put enrolment matters at risk. Ho (2020)¹ submits that the first mistake is “letting crisis response crowd out attention for the bolder strategic moves that cannot be delayed in order to ensure crisis recovery.” The response, in the writer’s view, is not to wait till later before acting, with the expectation that things would cool down. A university-wide literacy on what is to be done is needed so that members can, in the words of Ho, engage in “aspirational visioning exercises” (2020)³. To achieve this, leaders within the University must be skilled to navigate effectively between “crisis response” and “crisis recovery” (2020)⁴. The need to begin recovery for the needed bolder transformation is key. This turning of the COVID-19 situation into an opportunity is exactly what BOU has been trying to do with its strategic vision and plans. It has been trying to leverage existing partnerships, collaborate with its stakeholders and be transparent with its propositions to improve its teaching and learning situation.

As already indicated, the second mistake is the tendency by many to ignore the enhancement of digital capabilities. Ho (2020)⁵ observes that “there is no realistic scenario that does not include a need for higher quality online migration.” To address this mistake, the expectation is for BOU to begin planning for what Ho calls “a higher quality digital experience... to meet heightened student expectations and respond to mounting retention challenges” (2020)⁵ BOU’s strategic thrusts, its STELTASS plans and related digital training programmes for staff and students have been helping to mitigate this mistake. The need to shift to that higher digital experience becomes crucial, for BOU and the nation. However, a greater degree of intentionality is required, to, according to Ho, create “affinity and community” (2020)⁵ especially for first year students, and use distance learning to provide “unique benefits to institutional equity” (2020)⁶.

Another mistake is that institutions often make decisions that are aimed at cutting costs, but which are not in sync with invest-related decisions (Ho, 2020). To the writer, this creates further risks for the students. Thus, even when there are no shocks or challenges such as COVID-19 poses, “labour cost reductions frequently do not achieve the intended savings” (Ho, 2020)¹³ and “higher education does not have a history of approaching human capital issues strategically, and this makes us vulnerable as cost cutting measures are employed now” (Ho, 2020)¹³. When costs are cut, they tend to reduce the needed talent when it matters or is needed most. This speaks to the need to be careful even when being prudent. It is necessary to note this as BOU plans its next strategic

moves, planning carefully for that which “will endure on the other side” (Ho, 2020)¹⁵. It must still employ talent, equip and train the talent, and engage in new partnerships and international relationships while getting the existing ones to endure. The emergence of COVID-19 may have created peculiar problems, but the decisions taken on financing must not cheapen the quality of instruction or of calibre of staff recruited. Neither must such cut into reduction in sponsoring training. The current plan of the University to set up a task force to explore staff attraction and retention strategy is commendable.

The World Bank (2020a) has offered some suggestions to address the shocks generated by COVID-19. There is need to protect students and families against infection; develop emergency remote learning programmes, prevent at risk students from dropping out and request contractors to draw on their universities and other post-secondary institutions for technological support, including “access to global knowledge” (World Bank, 2020a)⁶. Additionally, there is need to manage continuity, re-enrol students and organise learning recovery. Also, the need to change perceptions and to build back in a better way was underscored. The need to move towards better education is also expected to start immediately, considering that the educational system worldwide is said to be “in an emergency-response mode” (World Bank, 2020a)⁷. BOU plans to incorporate these ideas into its agenda.

One other area worth noting is the need for universities and their staff, and students to be aware of new information. The World Bank’s Open Knowledge Repositories (OKRs) show the amount of resources available, and how the world is seeking vital information through them. The OKRs contain World Bank reports, research outputs, evaluation studies, background papers, books, accepted manuscripts and opinion surveys. Tab. 4 shows the volume of downloads from the repository, as of 17 November 2020:

Tab. 4 Downloads by Country from the World Bank OKRs as of 17 November, 2020

Country	Downloads	Country	Downloads
USA	7,920,638	Botswana	36,624
China	2,629,458	South Africa	491,081

(Continued)

Country	Downloads	Country	Downloads
Canada	1,123,540	Angola	7,995
Australia	686,516	Tanzania	192,864
Russia	825,953	Zambia	132,123
UK	2,062,551	Nigeria	255,450
France	825,235	Ghana	163,110
Germany	1,561,082	Mozambique	32,942
Brazil	448,885	Madagascar	19,140
India	1,892,937	Namibia	24,841

Source: World Bank (2020c).

The highest downloads of information materials are from the USA, China, UK, India, Germany, in that order. This, to some degree, reflects the dimensions of development and desire for knowledge in these countries. The countries with the highest rates of development downloaded the World Bank Group files more and tended to seek more information on a range of topics. In a COVID-19 dominated era, it is in a nation's strategic interest to constantly obtain new information from various sources for their sustainable development. Interestingly, it was during COVID-19 that many came to know, for the first time, of the Spanish flu of 1918–1919 which had a tremendous negative on the world. It is COVID-19 that has made many to know that video conferencing platforms had always been in existence and in use globally although its recognition and utilisation was limited. For BOU, the careful pursuit, acquisition and exposure of its constituents to new information will prepare it for the post COVID-19 world. BOU must be proactive in its planning and strategizing along these lines.

4.3 Forging New Strategic Directions

The strategic intent of BOU by 2023, as reflected in Fig. 2, is clear. It is expected to be an open

university recognised for its technology-driven programmes, relevant research and societal impact. Its internal processes are geared towards increasing stakeholder and student satisfaction, maintaining value-added partnerships and increasing student enrolment, even as it enhances student success and employability. BOU seeks to diversity its funding sources and optimise its financial resources. Ultimately, academic excellence, superior student experience and strong collaboration and partnerships are expected. Notably, the University is actively pursuing these laudable goals, and on technology, has succeeded in moving slightly ahead of its original date of implementation.

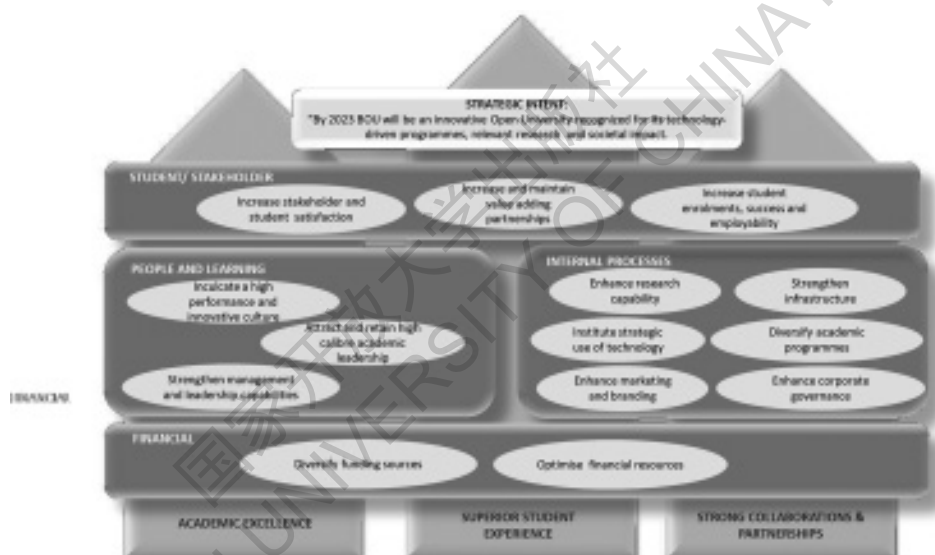


Fig. 2 Botswana Open University Strategy Map

Source: Botswana Open University (2020d). Strategic Plan 2019–2023.

Although BOU has a major strategic plan and a framework, there is need to explore new dimensions of practice to realise its vision, pursue new directions, develop new policies and implement existing ones. In this connection, first, many of the good policies developed by BOU need to be digitally re-oriented because of the problems created by COVID-19. There are current

plans to enhance the Working from Home Policy, develop a partnership policy to focus on the four pillars of strategic partnerships and develop a Private Work Policy.

Second, in response to delays and related challenges in accrediting programmes, the University is looking at self-accrediting. This will be in line with practices in Australia where universities can apply for a self-accrediting status. This is of strategic priority to BOU and is linked to the strategic pillar of excellence. The current Programmes Development and Review Guidelines were developed with a future self-accrediting status in mind.

Third, and partly in response to programme challenges, new programmes are expected to be developed at the Bachelor's and Master's levels. These include the Bachelor of Science in Public Health and a Masters in Global Health History. In teacher education, the University hopes to take up the issue of training teachers in the use of ICTs, through a Post Graduate Diploma in Technology Enhanced Teaching and Learning (PGD-TET & L). There are also plans to develop a Post Graduate Diploma in Distance Education, to further enhance personnel understanding of distance education technologies and methodologies. These programmes will, hopefully, respond to ongoing issues in the economy and society. There is need for more research and a market-driven response to developing programmes. Also, BOU plans to continue to pursue outreach work aimed at helping communities and councils.

Fourth, for academic quality enhancement, the University aims to have 25,000 students on its roll by 2036. As growth is built into the BOU model, COVID-19 will make growth necessary. To this end, the acceleration of the development of programmes in the School of Science and Technology, being envisaged, is also vital.

Fifth, a planned Academic Staff and Recruitment policy is aimed at helping the University to grow, and, to a degree, internationalise its staffing. Thus, on staff recruitment and retention, there are plans to keep using competitive salary rates, strengthen the mentoring system, and aim for the use of new academic nomenclatures. At the moment, many BOU staff are enrolled in PhD programmes, and this is integral to the development plans of the University as well as its future.

Sixth, the University will soon finalise plans for restructuring. Hopefully, the Academic Services Division will be split into two, namely, the Division of Academic Services and the Division of Research, Innovation and Partnerships. These two divisions are expected to operate at a higher level and will be more coherent and focused.

Seventh, while the University is increasingly being recognised in the area of e-education, the SADC centre is also an opportunity to grow BOU's presence regionally. With the COVID-19 challenge, the goal is to make the presence of the SADC office better felt. The University has always been a favoured institution of the COL, and there is an obvious need to maintain that partnership and clout. The chairing of the Virtual University of Small States in the Commonwealth (VUSSC) by the Vice Chancellor of BOU is a case in point.

Eighth, as the University moves beyond the COVID-19 period, the need to leverage the COVID-19 responses to promote e-education becomes paramount. Phase 1 of such planned intervention is for the University to launch a campaign for development of a National Open Educational Resources Centre and mobilise all public education institutions to contribute to higher education content by developing selected programmes (Tau, 2020). MOBE will be asked to contribute to the development of secondary and primary education school content (e-books, digital videos, etc.) while local publishers will be requested to develop and produce e-books aligned to curricula of different educational levels.

In Phase 2, BOU will establish a self-sustaining Centre for Open Educational Resources, and, hopefully, appoint a renowned professor to help raise funds for the project (Tau, 2020). The office will comprise technical experts in instructional design, research, content development and library services. BOU will be a lead institution to inspire the development of e-Education and OER. The Centre will train teachers and academics on e-content development and TPACK (Technological, Pedagogical and Content Knowledge) at a cost to employers and ensure the coordination by the Centre of content development for all levels. The expected National Open Educational Resources Centre will be managed through an Advisory Board. Through this Centre, cost effective educational content is made available while secondary and primary textbooks budgets become sustainable. The payment by universities for the e-content provided by databases

will be reduced and the educational provisions properly will be aligned to the dictates of the 4th Industrial Revolution. While Botswana e-education aspirations are realised, a foundation is also laid for the transformation of the educational landscape. In this way, Botswana becomes resilient against disasters. The anchor for all these will be an e-education policy framework, adopted by the Botswana education system. Subsequently, BOU has already moved this agenda forward by leading the development of a Draft e-Education Policy Framework (Botswana Open University, 2020e), in partnership with other stakeholders. The draft policy framework is now with the Ministry of Tertiary Education, Research Science and Technology (MOTE), and MOBE.

Ninth, BOU is aware that due to COVID-19, BOU's global interactions that have taken a hit may be difficult to strengthen. However, BOU aims to build on existing international partnerships and leveraging the opportunity to navigate the future through collaboration, co-production and co-consumerism. BOU looks forward to participating and partnering with stakeholders and moves the agenda of education beyond its present situation.

Tenth, the negative effect of COVID-19 on second stream incomes, including rentals, has been observed. It is time to explore third-stream income sources. This should help infrastructural development, as the University can only upgrade its facilities with the government's support, and in accordance with national development plans. For open schooling, however, comprehensive development does not need to wait for the coming National Development Plan periods. There is need to explore a future with less dependence on the government. A committee to explore third income streams has been instituted.

In addition to the above, e-boards have been institutionalised in the University, allowing Executive Management to hold remote meetings. Prudent use of physical space, managing budget provisions, and enhancing connectivity for staff are being pursued. BOU is also exploring the promotion of better health and wellness initiatives for its staff, and having a dedicated Office of the Safety, Health and Environment Manager is being considered. All these should have significant impact on BOU's trajectory into a post-COVID-19 world.

5. Conclusion

BOU's response to the COVID-19 pandemic is clear. BOU regards the entire nation as a school, a pre-university, a university and post-university educational landscape that requires impactful intervention. In this sense, BOU is already reaching out beyond its borders. It is interested in locating its students and determining strategies for developing the right digital infrastructure to serve them. A one-size-fits-all approach will not work and the knowledge of BOU students is critical to any strategic initiative. Thus, the Learning Analytics policy developed by the University is vital in responding to student needs while utilising a rich variety of student information to enhance their learning.

The current policies which drive the institution's academic, outreach and research agenda compare favourably with ODL (open and distance learning) players in the region and the Commonwealth, and demand comprehensive implementation. However, BOU will also design and explore new initiatives, engage in futuristic thinking and procure state of the art technologies for teaching and learning. New international partnerships, novel learner support systems, emergent learner management systems, which enable speedy contacts with tutors and coordinators will be explored. A recruitment drive, enabled by technology and new associations, multiple paths to learning and alternative technological landscapes and new client-driven interventions, will also be explored.

New collaborative initiatives with the COL and BOU's continued involvement in the activities of the Distance Education Association of Southern Africa (DEASA) will augur well for future development. Similarly, collaboration with the Open University of China, still at a nascent stage, should give BOU a giant leap into the heart of the 21st century. It is hoped that the initiatives explored in this chapter will lead to a paradigmatic shift in teaching and learning, student and staff support and further technological pursuits. BOU will obviously need to strengthen its presence in the International Council for Open and Distance Education (ICDE) and the African Council for Distance Education (ACDE). There is also the need to re-invigorate the University's strategic partnership with the Open University of Malaysia, Open University of Tanzania, UNISA and the Open University of China.

The fact that the Botswana Government already sees BOU as a leader and source of expertise in e-education is worth noting. The Ministry's expectation that BOU will be a lead agency in the promotion of online learning in the country is welcome. As it keeps its doors of learning open, the University's vantage position to provide leadership and mentorship is important. Also, as BOU engages in its new strategic directions, it further enhances its presence and makes itself a university of first choice.

References

- ADEKANMBI G, 2021. The state of access in open and distance learning in Sub-Saharan Africa. Open access implications for sustainable social, political, and economic development: 160–182.
- Botswana Open University, 2020a. BOU policies. [2021–01–19]. <https://www.bou.ac.bw/index.php/home/bou-policies.html>.
- Botswana Open University, 2020b. Academic staff attraction and retention strategy task group. [S. l.]: [s. n.].
- Botswana Open University, 2020c. COVID-19 working from home policy. [S. l.]: [s. n.].
- Botswana Open University, 2020e. Draft e-education policy framework for botswana. Proposal for consideration by the Republic of Botswana, developed in partnership with the Ministry of Tertiary Education, Research, Science and Technology, and the Ministry of Basic Education. [S. l.]: [s. n.].
- Centers for Disease Control and Prevention, 2019. 1918 Pandemic (H1N1 virus). [2021–01–19]. <https://www.cdc.gov/flu/pandemic-resources/1918-pandemic-h1n1.html>.
- Central Intelligence Agency (CIA), 2020. The world factbook. [2021–01–19]. <https://www.cia.gov/library/publications/resources/the-world-factbook/geos/bc.html>.
- DODDS T, YOUNGMAN F, 1994. Provision of distance education in Botswana. *Journal of distance education*, 9(1): 61–79.
- HO M., 2020. Lessening the ultimate financial shock: five greatest mistakes in higher education COVID-19 strategy. [2021–01–19]. <https://eab.com/research/strategy/whitepaper/mistakes-higher-education-covid-19-strategy/>.
- Human Resources Development Council, 2019. Tertiary education statistics 2018. [S. l.]: [s. n.].
- International Labour Organisation (ILO), 2020. ILO monitor: COVID-19 and the world of work. Sixth

edition updated estimates and analysis. [S. l.]: [s. n.].

International Telecommunications Union (ITU), 2018. Measuring the information society report. [S. l.]: [s. n.].

LI C, LALANI F, 2020. The COVID-19 pandemic has changed education forever. This is how. [2021–01–19]. <https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/>.

MODESTO S, GATSHA G, 2017. The road to botswana open university 1998–2017. [S. l.]: [s. n.].

Republic of Botswana , 2007. Maitlamo: national policy for ICT development. [S. l.]: [s. n.].

TAIT A, 2013. Distance and e-learning, social justice, and development: the relevance of capability approaches to the mission of open universities. *Open praxis*, 14(4): 1–13.

TAU D R, 2020. BOU's corporate citizen responsibility in efforts towards the national call to keep the doors of learning open: moderating the impact of COVID-19 and future pandemics. [S. l.]: [s. n.].

The Southern African Development Community (SADC), 1997. Protocol on education and training. [2021–01–19]. https://www.sadc.int/files/3813/5292/8362/Protocol_on_Education__Training1997.pdf.

Transparency International, 2020. Corruption perception index 2019. [2021–01–19]. https://www.transparency.org/files/content/pages/2019_CPI_Report_EN.pdf.

UNESCO, 2020. Global monitoring of school closures caused by COVID-19. [2021–01–19]. <https://en.unesco.org/covid19/educationresponse>.

UNICEF, 2020. Key messages and actions for COVID-19 prevention and control in schools. [2021–01–19]. https://www.who.int/docs/default-source/coronaviruse/key-messages-and-actions-for-covid-19-prevention-and-control-in-schools-march-2020.pdf?sfvrsn=baf81d52_4&gclid=EAIaIQobChMIrf_tu-bq6wIVUO7tCh0yzQJ6EAAYASAAEgIJT_D_BwE.

World Bank, 2020a. The COVID 19 pandemic: shocks to education and policy responses. [2021–01–19]. <https://www.worldbank.org/en/topic/education/publication/the-covid19-pandemic-shocks-to-education-and-policy-responses>.

World Bank, 2020b. GDP per capita (current-US\$)- Botswana. [2021–01–19]. <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=BW>.

World Bank, 2020c. Open knowledge repositories. map total downloads by country. [2021–01–19]. <https://openknowledge.worldbank.org/most-popular/country>.

World Health Organization, 2020. WHO coronavirus disease (COVID-19) dashboard. [2021–01–19].

<https://covid19.who.int/>.

YOUNGMAN F, 1980. Africa: adult education chronologies in commonwealth countries. Cape Town: CACE Publications, University of the Western Cape: 26–32.

Acknowledgment

The authors acknowledge the contributions of BOU's Deputy Vice Chancellor, Academic Services (Professor Frank Youngman), Deputy Vice Chancellor, Student Services (Professor Kgomoiso Moahi) and the Deputy Vice Chancellor, Corporate Services (Ms. Lesedi Lesetedi) while developing this chapter. They also acknowledge the editorial support given by Professor Arua Arua of the University of Botswana.

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS



Mark Brown



Daire Keogh

You cannot afford to wait for governments to respond or sit on the side-line of digital disruption, and other powerful change forces, as nothing more than a spectator or future taker. Instead, our lesson is that higher educators have to be future makers.

Prof. Mark Brown is Ireland's first Chair in Digital Learning and Director of the National Institute for Digital Learning (NIDL) at Dublin City University (DCU). Since Prof. Brown's arrival at DCU from New Zealand at the beginning of 2014, he has led the development of DCU Connected for online distance students and played a leading role in the University's partnership with FutureLearn. He is an EDEN Fellow and serves on the Supervisory Board of the European Association of Distance Teaching Universities (EADTU). In 2017, the Commonwealth of Learning recognised Prof. Brown as a world leader in Open, Online and Distance Learning. He serves on the Executive Committee of the Open and Distance Learning Association of Australia (ODLAA). In 2019, Prof. Brown was Chair of the ICDE World Conference on Online Learning which DCU hosted in Dublin.

Prof. Daire Keogh began a ten-year term as President of Dublin City University (DCU) on July 14th 2020. Prof. Keogh, a Dubliner, is a distinguished historian who served as President of St Patrick's College, Drumcondra, and as Deputy President of DCU since its Incorporation (2016). He has published extensively, on the history of popular politics, religion and education in Ireland. He was a founding member of the European Quality Assurance Register Committee. He is founding chair of the British Irish Chamber of Commerce Higher Education and Research Committee. Prof. Keogh is a graduate of the National University of Ireland (BA), the University of Glasgow (MTh) and the University of Dublin (PhD.).



Dublin City University
<https://www.dcu.ie/>

A Story of Transformation: From Digital in Part to Digital at Heart

Prof. Mark Brown & Prof. Daire Keogh, Dublin City University

1. Introduction

This chapter tells the story of digital learning at Dublin City University (DCU) in The Republic of Ireland. It begins with the establishment in 1982 of the National Distance Education Centre and continues through to the end of 2020, the year of the “great onlineing” of higher education. The story traces how one Irish university has evolved from early days of a traditional “pack and post” model of distance education to now offering a rich 21st century digital learning experience. The role of the National Institute for Digital Learning (NIDL) hosted by DCU is central to this story, as learning transformation through new technology is at the heart of our institutional culture. After briefly introducing DCU, including the relevant policy context and digital learning environment, we report how the NIDL’s significant leadership is helping to reimagine and reshape higher education in the digital-era. Drawing on the DCU experience along with recent lessons from the COVID-19 crisis, the chapter argues that learning online is not the same as learning in a physical classroom; it requires a new set of skills and capabilities to master. However, more than ever, learning how to learn online and through new digital technologies is now an important life skill, which all students need to develop—irrespective of where they learn. In the future, we expect new models of digital learning will become an even more prominent feature of the global higher education landscape. To illustrate this point, the chapter describes several future-focused initiatives at DCU, which also demonstrate the value of strategic partnerships and some of the challenges and opportunities facing colleges and universities in such rapidly changing times. Our central message is that transforming lives and societies through new digital models of higher education is not something for the faith hearted; it requires vision and bold leadership that

places the new digitally connected world at the heart of thinking and planning as we create better futures—for all.

2. Background

Global demand for more flexible models of higher education, particularly from part-time students and working professionals, continues to grow around the world. Even before the COVID-19 pandemic, and closure of college and university campuses, it was predicted that the global value of online education would reach €290 billion by 2025 (McCue, 2018). In the 30 days prior to June 2020, it is estimated that MOOC's alone attracted almost 500 million visits from learners around the globe, up 2.5 times from the start of the year (HolonIQ, 2020a). However, it needs to be noted that while HolonIQ (2020b) provides powerful evidence of rapidly growing demand, online education currently makes up less than 2% of the overall higher education market.

In Ireland, the growth in online higher education has not been as dramatic as elsewhere, with prior to the COVID-19 crisis only 3% of the student body studying remotely (Higher Education Authority, 2016). This low figure is partly due to a restricted funding model for online education and because Ireland has the youngest demographic in Europe. Strong demand from school leavers for traditional place-based learning is expected to continue to grow over the next decade, which until recently has tended to deflect attention away from investing in more flexible models of higher education. Historically flexible learners studying fully online in an Irish higher education context tend to be older, working professionals who prefer to study part-time so they can earn as they learn and upskill on the job (Delaney et al., 2013). Alternatively, they are “second chance” learners returning to education and in many cases from lower socio-economic backgrounds (Delaney et al., 2018). Whatever their background, most of these fully online part-time students are seeking to enhance their employment prospects and future career opportunities. Over the years, arguably, limited incentives and government funding to support flexible, part-time, online education is one of the main reasons why Ireland continues to have a relatively low rate of life-long learning (EuroStat, 2020).

The Irish COVID-19 response has demonstrated two points. Firstly, online learning in the form of emergency remote teaching has been able to successfully facilitate access to higher education for those affected by campus closures. Secondly, it has served to highlight the potential of new digital models of learning to help open up and extend access to higher education for people unable to study through more traditional ways due to their work and family commitments. The key question is:

To what extent will Ireland in the future exploit this opportunity to help create a far more flexible higher education system, which is capable of developing active citizens, life-long learners and a future-ready workforce?

Set against the backdrop of this question, we turn our attention to how DCU is responding to the challenges and opportunities of the new digitally connected world. The chapter shares how one ambitious and relatively young Irish university is endeavouring to reimagine and reshape the future of higher education. We report our efforts to seize the potential of new digital technologies and new flexible learning pathways to deliver on DCU's core mission of *Transforming Lives and Societies*.

3. About DCU

DCU is a relatively young research-intensive institution established in Ireland in 1981. Situated in Dublin's north inner-city, DCU has a footprint across three academic campuses, a sports campus, and innovation campus. DCU offers over 200-degree programmes across five Faculties: Business, Engineering & Computing, Humanities and Social Sciences, Science and Health and the Institute for Education. It has a total population of over 18,000 students, with more than 4,000 studying through the Institute of Education, Ireland's only Faculty of Education and one of the largest in Europe. Recognised nationally and internationally as Ireland's "University of Transformation", DCU strives to create and translate new knowledge into impactful innovations for social, economic and environmental benefit. In 2020, DCU was ranked 84th in the world in the Times Higher Education (THE) Impact Rankings, which capture impact on society based on success in

delivering the United Nations' Sustainable Development Goals. DCU is consistently ranked by THE in the top 100 young universities in the world and was recently named as Ireland's 2021 "University of the Year".

While DCU is a dual-mode university, "designed to be different" (Kinsella, 2020), prior to the COVID-19 crisis the majority of students engaged in their study "in place" on a physical campus. However, DCU has almost 40-years of experience in the provision of distance education. In 1982, the National Distance Education Centre was established and located at DCU to provide higher education to adults all over Ireland (MacKeogh, 2003). The National Centre became "Oscail—DCU Online Education" in 2004 to reflect a new funding model and the University's early adoption and leadership in new models of online delivery. The term "Oscail" translates to "open learning" in the Irish language and ever since its inception DCU has demonstrated a strong commitment to widening access to university-level education through flexible pathways for diverse and geographically dispersed learners. Notably, DCU was Ireland's first Age Friendly University as well as the first University of Sanctuary. Thousands of adult learners spread across Ireland, and beyond, have obtained their university qualifications and advanced their careers through DCU's online distance education courses. Promoting wider access to higher education is part of our DNA and remains central to DCU's core mission of "transforming lives and societies".

Over the past 20-years the DCU has developed significant expertise in the design and delivery of high-quality online education. It is widely recognised in Europe as a leader in the area and is Ireland's only member of the European Association of Distance Teaching Universities (EADTU). DCU's leadership is further evidenced by our active role in the International Council for Open and Distance Education (ICDE), and notably in 2019 hosted the World Conference in Online Learning. Our strong commitment to innovation and expanding access to higher education through new digital technologies is advanced through a number of strategic relationships. For example, DCU is an active member of the Young European Research Universities Network (YERUN) and European Consortium of Innovative Universities (ECIU). A strategic partnership with Arizona State University (ASU) in the United States is another powerful innovation accelerator. DCU also has an important strategic partnership with FutureLearn and in February 2020, formally launched

Ireland's first credit-bearing micro-credential through this global online platform. It follows that digital learning by design is also very much part of our DNA.

4. DCU Strategy and Digital Learning

4.1 Strategy

DCU's Strategic Plan, *Talent, Discovery, Transformation 2017–2022* (Dublin City University, 2017a) was launched in September 2017 by the Minister of Education.

Notably, the development of the strategic plan included a 24-hour fully online brainstorming and public consultation event known as DCU Fuse (Brown, 2017). Over a 24-hour period during Open Education Week in March 2017 almost 7,000 messages were posted by staff, students and the wider DCU community in a dedicated online platform developed for the purpose. There were around 70,000 page views and the DCU Fuse conversation trended as No. 1 in Ireland on Twitter for much of this period. DCU Fuse was a significant initiative to ensure that digital ways of learning and working lived throughout the University. It provides tangible evidence of DCU's efforts to "walk the talk" and ensure that digital learning is at the heart of organisational culture.

The new Strategic Plan outlined a vision for the University, in which, DCU will be a globally significant University of Transformation. The plan also reiterated DCU's strong commitment to harnessing the potential of new models of digital education in achieving its mission of transforming lives and societies. This commitment has its roots in DCU's previous Strategic Plan, *Transforming Lives and Societies 2012–2017*, which was launched in 2012. The plan identified six high level Strategic Objectives based on four Core Principles:

- **Transformation**—To transform our students' lives by equipping them to flourish in 21st century society;
- **Enterprise**—To be recognised internationally as a leading University of Enterprise;
- **Translation**—To drive social and economic progress by translating knowledge into action;
- **Engagement**—To foster active engagement with our stakeholders and partners regionally,

nationally and globally.

Specific actions aimed at progressing DCU's ambitions in digital learning were explicitly identified under the Transformation section, including the goal to:

Develop a "21st Century Digital Campus" which, coupled with the outputs of our National Centre for Digital Learning, will support pioneering, technology-enhanced learning and revolutionise the learning experience both for Campus-based Education and Distance Education (Dublin City University, 2012).

A number of constitute plans were developed over the next year to operationalise the Strategic Plan, including the *2012–2017 Teaching and Learning Strategy* (Dublin City University, 2013). Notably, in developing this plan a key decision was made to infuse or embed digital learning throughout DCU's policy architecture rather than develop a separate standalone strategy. The intention was to mainstream digital learning as the "new normal" at DCU and thereby avoid the risk of a "bolt-on" approach where a separate plan got lost or became increasingly disconnected from another strategic priorities. In terms of digital learning, the *2012–2017 Teaching and Learning Strategy* stated that:

DCU will use online technologies to introduce greater flexibility in patterns of engagement with university education, freeing students from some of the normal constraints of location and time, and allowing DCU to address students traditionally beyond our reach. All of our students will be familiar with the processes of online learning, and that in itself will be a key learning outcome for DCU students (Dublin City University, 2013).

Key actions underlying this goal included establishing a NIDL, as referenced in the above Strategic Plan, and the appointment of Ireland's first Chair and Professor of Digital Learning to help support DCU's goals of a transformative student experience through the creation of a 21st Century Digital Campus. In the next section, we describe the establishment of the NIDL and report how it has become a key enabler of DCU's transformative mission.

4.2 About the NIDL

In November 2013, the Minister of Education officially launched the NIDL with an international, national and institutional remit to “support pioneering, technology enhanced learning and revolutionise the learning experience both for Campus-based Education and Distance Education” (Dublin City University, 2013). Following the recruitment and arrival of the inaugural Director from New Zealand in January 2014, the NIDL set out a vision to be recognised as a world leader at the forefront and leading edge of new Blended, On-Line and Digital (BOLD) models of education. More specifically, its mission was to design, implement and research new BOLD approaches to teaching, learning and assessment which help to transform lives and societies.

The NIDL consists of over 50 core academic, professional and administrative staff along with around 20 affiliated faculty staff as part of a wider Digital Learning Research Network. Four internal DCU units come under the core organisational structure:

- Teaching Enhancement Unit;
- Digital Learning Design Unit;
- Open Education Unit;
- The Ideas Lab.

As illustrated in Fig. 1, a number of other DCU central service units such as the Library and Information Systems Services (ISS) help to support and foster a rich and productive digital education ecosystem. Extending this ecosystem beyond DCU, the model illustrates how the external facing work of the NIDL, with a strong digital futures focus, helps to ensure our work is connected to a wider community of learning innovation. Importantly, The Ideas Lab serves as a key link and innovation incubator to pilot new digital learning initiatives and mainstream them in DCU where they are feasible, proven and aligned with strategic priorities. The underlying assumption is that knowledge exists in the network and to foster a rich digital learning culture no university can afford to be an isolated island of innovation.

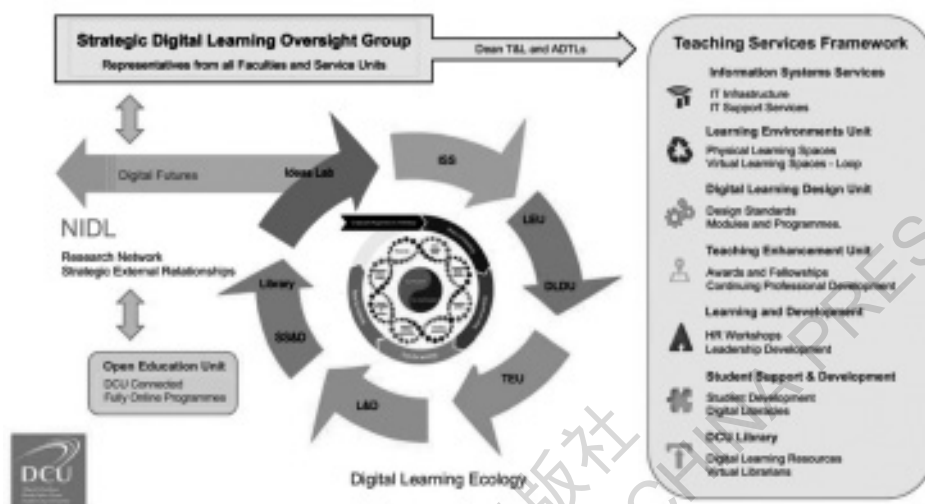


Fig. 1 DCU Digital Learning Ecology

Since its inception, the NIDL has gone from strength to strength and has become known as a global leader in the area of digital learning. Members of the NIDL team serve on the executive committees of many related professional bodies, including the Irish Learning Technology Association (ILTA), European Distance and E-Learning Network (EDEN), European Association for Distance Teaching Universities (EADTU) and the Open and Distance Learning Association of Australia (ODLAA). Increasingly the NIDL's expertise is being sought after throughout Europe, and beyond. For example, the Director regularly contributes to high-level European Commission initiatives and serves on several government level groups such as the Ministry of Education's International Advisory Board for eLearning in Saudi Arabia.

As further evidence of its leadership, since 2014, the NIDL team has produced over 800 scholarly outputs and key staff play important roles on the editorial boards of leading international journals. For example, through a strategic partnership with the Springer published *International Journal of Educational Technology in Higher Education*, the NIDL team makes a significant contribution to the research and professional community. Notably, this journal is now the number one ranked

open access publication in the field and has quickly risen in the rankings to 27th overall in the Scopus list of all Education journals.

Additionally, the NIDL has successfully secured competitive external funding from national and European agencies for over 25 projects with a combined budget of more than €6m. To support its thought leadership the NIDL has a high profile International Advisory Board which includes some of the world's pre-eminent researchers and scholars working in the area. This group coupled with a strong research culture and active engagement in professional networks ensures that DCU continues to be at the leading-edge of new digital innovations and benchmarks itself with other leading international universities. As previously mentioned, in November 2019, the NIDL hosted the ICDE World Conference on Online Learning, which attracted over 800 delegates from more than 80 countries.

Few delegates attending the World Conference could have predicted the great “onlining” of higher education only a few months later. Since the Irish Government closed all school and university campuses on 12th March 2020 in response to the first COVID-19 wave, the NIDL has taken a lead role in supporting the pivot to what became known as emergency remote teaching. For example, as described in a special Irish case study (Bozkart et al., 2020), on 15th March 2020 the NIDL launched the first version of an online learning resource bank designed to support both Irish and European educators in their rapid move to teaching online. This resource bank was regularly updated throughout the year and now contains a wealth of useful resources. On 16th March 2020, the first day of the first week of campus and school closures, the NIDL hosted a European-wide webinar, in partnership with EDEN and EADTU, to support institutions and respond to particular questions and concerns. On Tuesday 17th March 2020, the NIDL was contacted by FutureLearn to discuss the idea of designing a new online course to support educators to learn how to teach online. By the end of the following day the draft course structure and proposed topics were already taking shape. Coincidentally, the NIDL was already scheduled to launch a free online course on Teaching Online as part of the externally funded #OpenTeach project (Farrell et al., 2020). This course taught through Moodle began on 23rd March 2020 with around 500 participants.

By Thursday 19th March 2020, the course, *Learning How to Teach Online: Providing Continuity for Students*, was sufficiently developed that FutureLearn issued a media statement announcing the initiative (Brown et al., 2021). This statement included a link to the course landing page and reported registrations would open on Monday 23rd March. In other words, the course was open for registrations after only one week of planning and development. Within hours of registrations opening over 2,500 people had signed up, including several hundred Irish educators. By the time the course began in early April 2020 over 30,000 educators from over 130 countries had registered, with this figure quickly increasing to over 50,000 participants by the end of the first course offering. Notably, by December 2020, over 90,000 educators from around the globe had signed up for the course, with high levels of learner engagement, a completion rate of over 20% and overall quality and satisfaction rating of 4.8 out of 5.0. Notably, this initiative was recognised as the “Overall E-Learning Solution of the Year” at the UK EdTech Breakthrough Awards.

The NIDL was centrally involved in two other FutureLearn initiatives. Firstly, as part of the European funded EMBED project led by EADTU, in April 2020 we launched *Making Blended Education Work* through the FutureLearn platform. This five-week MOOC exploring how to design and successfully implement blended education at an institution-wide level attracted over 3,000 educators.

Secondly, after a rapid design process, in September 2020, the NIDL launched a MOOC to help promote student readiness for online learning (Brown, 2020a). As depicted in Fig. 2, this course, *A Digital Edge: Essentials for the Online Learner*, was co-facilitated by students and formally supported by the Irish Universities Association (IUA). By the end of 2020 the course had attracted over 6,500 learners from all parts of the world, with an impressive completion rate of over 50%. In the case of DCU, over 1,500 first-year students completed the course and claimed the Certificate of Attainment. The course has an 87% satisfaction rate and quality score of 4.8 out of 5.0 by participants, with highly positive feedback, as evidenced by the following comment:

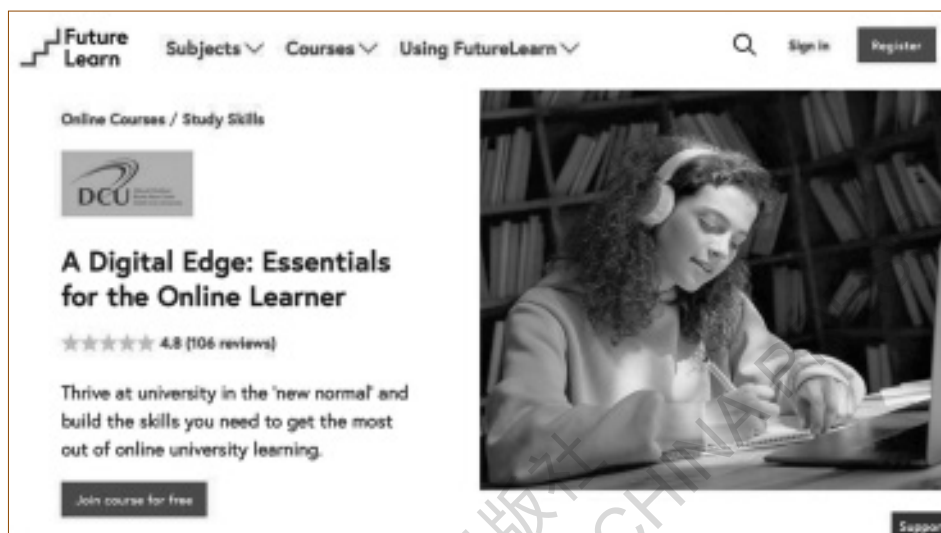


Fig. 2 A Digital Edge: Essentials for the Online Learner

I've definitely learned a lot from this course and I really enjoyed it too. I've learned about different tools that I will use to thrive in my new online learning environment. I've discovered areas that I need to work on and I've gotten a clearer insight into how I learn. I've learned about the importance of being organized, having a good balance in life and of taking time off. I learned about how active citizenship interlinks with becoming a student. The digital tools and skills that I have learned about have prepared me for online learning and the year ahead now seems less daunting. Thank you.

In summary, the NIDL has made significant progress in realising its vision to become recognised as a world leader in area. Members of the NIDL team provide increasing leadership through their active engagement in a range of professional networks and continue to produce an impressive number of scholarly outputs. Moreover, the NIDL has established a strong track-record of attracting external funding to support leading edge projects which serve to advance its mission to be at the forefront of research, innovation and thought leadership in fostering a highly productive digital education ecosystem. The challenge looking to the future as demand for the NIDL's

services continues to grow, is striking a strategic balance between supporting DCU's own internal ambitions, while continuing to help shape future policy, research and future-focused developments on the national and international stage.

In the section, we describe how DCU is leveraging the NIDL's leadership to build on its proud history of expanding access to university degrees and programmes through online distance education.

4.3 About DCU Connected

In August 2014, *DCU Connected* was launched under the umbrella of the NIDL as a major new initiative to replace Oscail to help promote the University's fully online degrees and programmes. Importantly, the term "connected" was deliberately chosen to shift the focus away from a particular mode of delivery or technology to the transformative nature of the learning experience. The intention was to encapsulate how in the new digital world learners can be connected wherever they study, "class comes to you", as Fig. 3 illustrates. In other words, physical and geographical distance should not be a barrier to learning, and nor should it limit DCU's ambition and wider outreach in delivering on its mission of transforming lives and societies. In this respect, the "connected" metaphor helps to avoid the type of deficit language that has become part of the COVID-19 discourse around online learning and emergency remote teaching as it does not suggest this delivery mode is inferior to traditional on-campus instruction. Thus, being connected to fellow students, excellent teachers, world-class research and high-quality learning resources, wherever students reside, is at the heart of DCU Connected. The commitment to DCU Connected students is to create a highly engaging, intellectually challenging and transformative learning experience where they have the same learning opportunities, and feel as connected to the University, as any traditional campus-based learner.

Another feature of DCU Connected is a very successful University of Sanctuary initiative. The Universities of Sanctuary is made up of a network of universities committed to welcoming those seeking sanctuary into their communities and to providing a safe place within which they can pursue their educational goals. Each year up to 25 scholarships are awarded to Irish refugees and

asylum seekers to help them pursue part-time online study (Farrell et al., 2020). Central to the DCU Connected scholarships is not only the provision of access to higher education but also the provision of access to the Internet, laptop and digital skills training necessary to overcome the digital inequalities inherent in the way refugees and asylum seekers are treated in the Irish system. According to the UNHCR (2015), globally around 1% of refugee students are enrolled in higher education. The NIDL team is extremely proud of their efforts to support and manage this initiative as it provides tangible evidence of DCU's commitment to transforming lives and societies.



Fig. 3 Example of DCU Connected Marketing

Following the launch of DCU Connected the number of registered fully online students significantly increased each year. Generally, students studying fully online rate the DCU Connected offerings highly, as evidenced by the findings of the 2017 Jisc Student Experience Digital Tracker Survey where 85% of respondents reported the quality of digital teaching and learning as “good” or “better” (Dublin City University, 2017b). At the time 85% of DCU

Connected students also rated DCU's digital provision as "good" or "better", with 42% describing the online learning environment as excellent. Moreover, DCU Connected was singled out for praise in DCU's 2018 Institutional Review Report, with the following commendation:

"The Team commends the operation of DCU Connected, its strategic and dynamic approach, and its alignment with the Institutional Mission in terms of opening access and delivering online learning" (Quality and Qualifications Ireland, 2019)³⁴.

Although a major national INDEx survey of digital learning conducted towards the end of 2019 does not disaggregate findings by delivery mode, notably DCU perceptions of the quality of digital provision is rated as "good" or "better", by 88% of respondents, compared to 80% of participants nationally (National Forum, 2020). Similarly, DCU students are significantly more likely to rate the quality of digital teaching and learning on their course as "good" or "better", than respondents nationally. In considering national benchmarks for the breadth of digital learning activities to support teaching, the INDEx survey results suggest that DCU staff are more likely to have engaged digital learning tools to support teaching than sectoral colleagues.

However, as previously noted, the Irish Government does not provide the same level of institutional funding and financial support for online learners, which continues to restrict opportunities for growth. When DCU Connected was launched another goal was to move what was previously Oscail from the edge of DCU's academic community to the centre as we sought to position faculties to respond to what we predicted would be growing demand for fully online courses. Historically, Oscail operated outside of normal faculty structures due to reliance on non-exchequer income. The goal to fully embed DCU Connected offerings in faculties has been difficult to realise due to the restricted funding model, which is at the root of this problem. It remains to be seen whether after the COVID-19 crisis the Irish Government introduces a more attractive and equitable funding model to support future development of online education.

4.4 DCU's Digital Learning Environment

An investment in IT infrastructure to enable digital learning is also an important feature of the

DCU story. DCU was an early adopter of the Moodle open-source platform with a small pilot installation in 2003. Moodle uptake grew significantly over the following decade and by the launch of the 2012–2017 Strategic Plan, DCU’s learning management system (LMS) had evolved from being a small cottage initiative to a core platform within the University’s wider digital architecture.

In August 2014, DCU launched *Loop* as an overarching brand for the VLE to better reflect the goal of developing a 21st Century Digital Campus. The term “Loop” was intentionally chosen as a metaphor to encapsulate a move away from a somewhat techno-centric focus on the features of Moodle, to place greater emphasis on bringing people together and harnessing the potential of technology to create rich digital learning communities. In this respect, the aim was to put people and their learning at the core of the loop rather than technology. Having said that, the loop metaphor also served to illustrate the idea of a rich digital learning ecology with a variety of different tools rather than just Moodle at the core. While at the risk of overtheorizing the metaphor, the term Loop was intended to support an innovation culture where DCU staff and students were encouraged to push traditional boundaries by using new *edge* technologies to help reimagine teaching, learning and assessment.

Loop is now deeply embedded in DCU and is at the heart of the DCU Connected learning experience. However, well before COVID-19 Loop was also being routinely used by most campus-based students to interact with teaching staff and fellow learners, access course materials, participate in lectures, undertake quizzes and interactive activities, submit assignments, and so on. DCU is widely recognised in Europe as a leader in the Moodle community, having hosted the annual “Ireland UK Moodle Moot” on three occasions since 2012.

DCU has continued to upgrade and add enhancements to Moodle on a regular basis and in 2019 moved to a new cloud-based hosting service provided by Catalyst IT, one of the world’s leading open-source developers supporting the education sector. Additionally, DCU has expanded to core toolset within Loop with a significant investment in the Mahara open source ePortfolio platform, which was implemented in 2016. Internally the platform is known as Loop Reflect. The Reflect ePortfolio platform is being used by over 14,000 students across all faculties at undergraduate and

postgraduate levels to support critical reflection, assessment, work placement, and co-curricular activities. DCU has by far the largest ePortfolio practice of any higher education institution in Ireland, has been instrumental in establishing the ePortfolio Ireland professional network, and is now a leader in the global Mahara community.

A number of other digital tools are core to Loop. In 2018, Urkund was selected following a review to replace Turnitin as DCU's text matching and plagiarism solution. This system is known internally as Loop Check. As DCU deploys Google IT infrastructure, which provides all staff and students with access to the full Google toolset, it chose to invest in developing its own video platform for rich media learning. The Unicam platform, called Loop Media, fully integrates with Moodle and is available throughout the University to support the recording of video for teaching and learning purposes. At the beginning of 2020, Zoom was adopted to replace Adobe Connect as the preferred platform for live synchronous classes and from the start of the COVID-19 crisis quickly became a crucial feature of DCU's digital learning environment.

DCU continues to explore new and emerging digital learning solutions with a current pilot Vevox for online polling and is testing the value and impact of Studiosity with DCU Connected students. This pilot provides access to a unique 24/7 online study coach and writing support service where students receive constructive feedback on draft written assignments within 48 hours of submission. It should also be noted that many other digital tools and platforms are being used locally by DCU Faculties and individual Schools which might not be core for all learners, but metaphorically speaking they are still part of the Loop.

Thus, Loop as a generic name for DCU's wider VLE has been highly successful even though the underlying narrative may no longer be as strong or well understood by the university community. Evidence of DCU's proactive investment in the VLE appears in the 2018 Institutional Review Report, which observed:

The use of the VLE at DCU was widely encouraged and there appeared to be an appetite for its use to become broader and more consistent, so that both teacher and learner reap the full benefits of this tool. The review noted the consistent process of

updating DCU Loop, and the wide provision of staff training for DCU Loop (Quality and Qualifications Ireland, 2019).

4.5 DCU's Digital Learning Partnerships

DCU has explored a variety of strategic partnerships to take advantage of growing national and international demand for online learning, and to facilitate a digital transformation of its on-campus curriculum. Importantly, these discussions have been anchored in DCU's mission of transforming lives and societies. As outlined in a recent Self-assessment Report on digital learning (Dublin City University, 2020), the internal drivers and underlying motivations can be summarised as follows:

- Provision of a transformative student experience;
- Re-imagining of the curriculum and engaging in contemporary curriculum reform;
- Development of an innovative globally-focused architecture underpinning the construction of degree programmes and awards based on the stacking of online micro credentials;
- Enabling DCU to meet the growing international demand for postgraduate awards in particular through innovative models for online and transnational delivery;
- Changing the modality of delivery of continuing professional development for upskilling in key areas of social and economic growth, and support an enlarged number of lifelong learners in Ireland consistent with EU targets;
- Implementing an online learning experience for on-campus students where a global classroom helps to internationalise the curriculum;
- Development of a rich digital campus capable of meeting the transformative ambitions of DCU's rapidly changing global higher education landscape;
- Developing a strong research and development culture in digital learning and building strong relationships with other leading institutions and organisations capable of shaping new and emerging models of higher education.

DCU has, through these partnerships and collaborations, attempted to consistently innovate and commit itself to opening access to higher education through new flexible models of learning. Furthermore, these partnerships have acted as a catalyst for DCU to progress internal transformation across a broad spectrum of remits and processes within the University from

operational changes to academic provision. Importantly, the COVID-19 pandemic has illustrated the significance of these activities and how they can be leveraged to provide and support quality online learning for DCU students and learners. Two strategic partnerships continue to be particularly influential in shaping DCU's response to the rapidly evolving globally connected higher education landscape: 1) FutureLearn and 2) ECIU. We describe these two partnerships and their strategic significance to DCU in this last part of the chapter.

4.5.1 DCU and FutureLearn

The decision to invest in MOOCs was not taken lightly. It followed a lengthy process of identifying the key institutional drivers for any such initiative and a review of existing platforms to evaluate their alignment and suitability in terms of the University's primary objectives (Brown et al., 2015). The overriding consideration at the time was to what extent could a MOOC agenda help to advance DCU's commitment to creating a rich 21st Century Digital Campus which enables a strong culture of innovation and the goal of a transformative learning experience. The focus on a space for learning innovation, a wellspring from which new more mainstream initiatives can be derived, was seen from an ecological perspective (Weller et al., 2013) as a way of building greater institutional resilience to future digital disruptions.

The key point is that independent of whether MOOCs were delivering on their often-overhyped claims, the primary driver was to use MOOCs to support a step change that DCU was aiming to achieve through the NIDL by increasing capability in new digital pedagogies. A MOOC initiative was entirely consistent with DCU's commitment to being Ireland's "University of Transformation". Moreover, considerable value was placed on the potential networking and collaborative opportunities arising from joining a consortium of innovative universities. It was at this point that a strategic engagement began with FutureLearn, as the pedagogical principles on which it was designed along with a clear commitment to exploring innovative online learning designs, made it stand out from other MOOC platforms. The development of a suite of online short courses through FutureLearn to extend the University's outreach alongside our stable of existing DCU Connected online degree programmes was seen as a logical extension. A well-developed MOOC agenda might also help to better position DCU to understand the rapidly growing online learning market and how to take the best of DCU to the world in order to deliver

on our mission of *Transforming Lives and Societies* on a global stage.

The decision to begin with a series of Irish language and culture courses through FutureLearn reflected DCU's commitment to promoting local heritage and our indigenous language in the best traditions of what it means to be European (Nic Giolla Mhichil et al., 2017). Moreover, the global Irish diaspora now extends to millions of people living around the globe who often report they have lost touch with their ancestry, traditions and cultural roots. Since Irish 101 was first launched in January 2018, over 10,000 learners from more than 135 countries have been attracted to our suite of language and culture courses (see Fig. 4). This example demonstrates the potential of MOOCs to deliver on national goals as building stronger links to the global Irish diaspora after centuries of migration is an important government policy. DCU's suite of Irish language and culture MOOCs have performed exceedingly well on the FutureLearn platform, with a high proportion of active learners contributing regularly, high completion rates of over 20%, and high levels learner of satisfaction with thousands of positive course reviews.

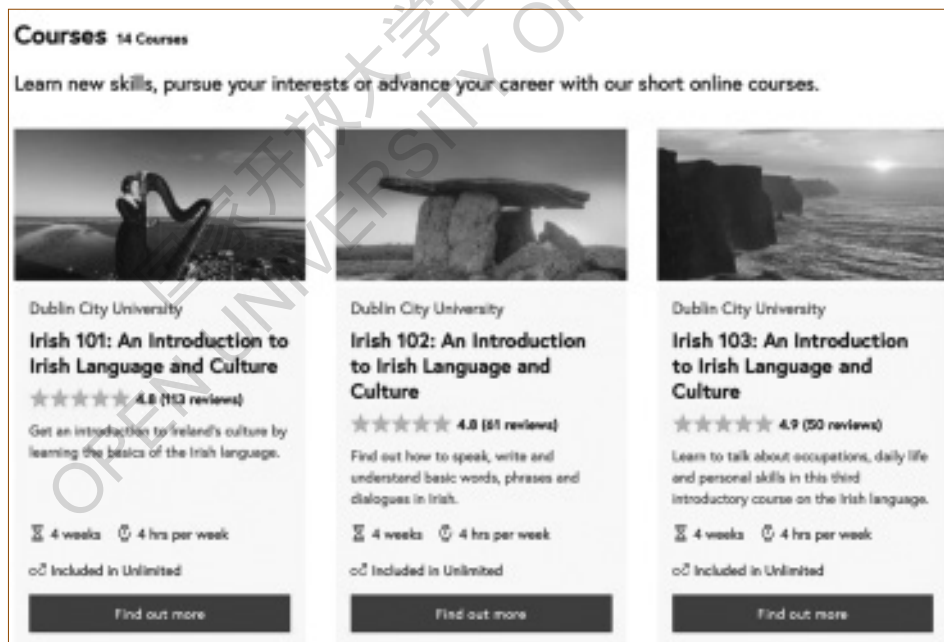


Fig. 4 Example of Irish Language and Culture Courses

There is no doubt that the FutureLearn experience has helped to enrich DCU's digital learning ecology and mature our understanding of fundamental principles of learning design for fully online delivery. Notably, the 2019 INDEX survey (National Forum for the Enhancement of Teaching and Learning in Higher Education, 2020) provides insight into academic staff perceptions of the quality of both digital provision within institutions, and the quality of support received to develop digital aspects of their role. Among responding staff at DCU, 77% considered digital provision as "good" or "better", which compares to 71% across the sector.

In April 2019, a new global strategic partnership with FutureLearn was launched to more fully harness the potential of MOOCs for campus-based students as well as for the development of new micro-credentials for national and international delivery. Importantly, this opportunity was not envisaged when the original MOOC strategy was developed as the emergence of credit-bearing micro-credentials is a relatively new area of growth in higher education. However, it validates DCU's decision to pursue a MOOC agenda as the University would not have been as well placed to explore this rapidly emerging area of development in many institutions and now countries around the world. In February 2020, DCU launched Ireland's first for credit micro-credential in the area of FinTech offered fully online through FutureLearn (Nic Giolla Mhichíl et al., 2020). In August 2020, DCU also entered into a strategic partnership with Digitary, a world pioneer in digital credentials, to support its strategic investment in the development of micro-credentials. This initiative primarily targeting postgraduate students required full academic approval for the recognition of micro-credentials in DCU's qualification framework and helps to advance related development plans.

We will expand on these plans shortly, but the lesson from DCU's experience is MOOCs should no longer be viewed as lingering on the fringes of higher education as they are playing an important role in reshaping the future. In this respect, Bozkurt, Akgün-Özbek, and Zawacki-Richter (Nic Giolla Mhichíl et al., 2019) describe the mainstreaming of MOOCs in terms of a shift from disruptive to a sustaining innovation, which is likely to further evolve after the COVID-19 crisis. From this sustaining perspective, the MOOC is now a complex and multi-faceted phenomenon requiring more mainstream engagement by educators and policy-makers, especially if we are to leverage their potential to address growing skill gaps, increasing demand

for continuous professional development and life-long learning more generally.

4.5.2 DCU and the ECIU University

In October 2019, DCU was successful as part of the European Consortium of Innovative Universities (ECIU) in securing €5m (extended in 2020 to €7m) under the new European University Alliance programme for the development of the ECIU University. This new European alliance has a bold vision for the future. ECIU University aims create a European-wide ecosystem based upon open and inclusive collaboration which connects societal stakeholders, researchers and learners to provide European solutions to future societal challenges.

The alliance has 12 full members: Aalborg University (Denmark), Dublin City University (Ireland), Hamburg University of Technology (Germany), Groupe INSA (France), Kaunas University of Technology (Lithuania), Linköping University (Sweden), Tampere University (Finland), Universitat Autònoma de Barcelona (Spain), Universidade de Aveiro (Portugal), University of Stavanger (Norway), Università di Trento (Italy) and the University of Twente (the Netherlands). Tecnológico de Monterrey (Mexico) is an Associate Member. Each partner university has a proven track record of innovation and strong commitment promoting life-long learning for societal impact.

Our Vision 2030 is to create a sandbox for solving multi-disciplinary challenges in entrepreneurial, innovative ways and to provide personalised learning and career opportunities for life at the European level, enabled by a collaborative university model based upon co-creation (European Consortium of Innovative Universities, 2020). At the core of this vision is a commitment to creating spaces where communities of practice flourish around urgent and relevant societal topics aligned with Sustainable Development Goals (SDGs) to help Europe achieve sustainability. Another key goal is to develop smart learning pathways that offer learners more choice where new developments in digital technology enable development of new 21st century skills and competences. To this end, ECIU University has already developed a comprehensive suite of online micro-modules that address major societal challenges and enable multidisciplinary and international teams to collaborate through a signature pedagogy of Challenge-based Learning (CBL) to make a real impact.

Another feature of the vision is to explore how to recognise these short learning experiences and important 21st century skills, and other learning outcomes, through the development of credit-bearing micro-credentials (European Consortium of Innovative Universities, 2021). Learning from working with challenges and non-formal learning provided by other stakeholders will enable ECIU University to award a unique range of micro-credentials which recognise real-world evidence and the validation of skills and competences in industry settings. The adoption of CBL as a signature pedagogy, coupled with the design of challenges in close collaboration with external stakeholders, such as companies, governments and NGOs, is core to the ecosystem of ECIU University. This close collaboration with societal groups reflects a strong emphasis on interdisciplinarity and working outside of traditional silos across educational programmes. Stakeholders provide relevant, real-life and meaningful challenges of global significance that require students to work in interdisciplinary teams, which not only results in authentic solutions that can be implemented, but also promotes new knowledge as well as a wider variety of competences and skills. On completion of assessment and proof of learning, some of these short learning experiences can be used to contribute to a verified micro-credential consistent with the high quality and international standing of ECIU University partners.

Many features of ECIU University align with an ambitious curriculum transformation project known as *DCU Futures*, which in 2020 secured €20m of competitive funding through the Government's Human Capital Initiative (HCI) designed to promote digital transformation across the higher education system. DCU Futures aims to develop "High Tech, High Impact, Human Touch" learning which equips graduates to flourish as highly employable, creative, global citizens. Another major HCI funded initiative is even more aligned to the strategic development of micro-credentials, both nationally and European-wide, which warrants further discussion in the next section.

4.6 DCU and Micro-Credentials

In October 2020, a consortium led by the Irish Universities Association (IUA) was successful in securing €12m for a national micro-credential system. This first of its kind project in Europe, known as *MC2*, will establish a coherent national framework for credit-bearing micro-credentials

aligned with both the Irish National Qualification Framework (NFQ) and the European Credit Transfer System (ECTS).

However, one of the problems is there is no global consensus on the definition of a micro-credential, which Rossiter and Tynan (2019)² observe “can make it confusing and bewildering to navigate...” the field. To confuse matters and make the nomenclature even messier, a wide range of other terms are commonly used instead of, or interchangeably with, the term micro-credential—for example, digital badges, online certificates, alternative credentials, nano-degrees and micro-masters. Hence, internationally the definition of micro-credentials varies significantly depending on who is using the term and in what context. As Sturgis (2019) states, “the difference between micro-credentials and badges... was becoming less and less clear... Not that it was ever that clear in the first place”. It should be noted that members of the academy often view the term “badge” with suspicion as they perceive them as eroding the status, credibility and reputation of conventional qualifications. Also, it is important to note that the term “micro-credential” has become synonymous with certificates of assessed learning earned through the major MOOC platforms, with many providers adopting their own labels: MicroMasters (EdX), Nanodegree (Udacity) and Specialisation (Coursera).

In an attempt to address the lack of a common definition, Brown, Mac Lochlainn, Nic Giolla Mhichíl and Beirne (2020) present a map of the emerging credential ecology (see Fig. 5). The map showing four credential quadrants differentiates on two axes between credit-bearing and non-credit-bearing credentials (*y* axis), and credentials that are bundled and unbundled (*x* axis). The former at one end of the axis recognises traditional macro-credentials and credit-bearing micro-credentials attained through formal and semi-formal study. The latter distinction on the *x* axis refers to the degree that the credential and related units of study are bundled together by the awarding institution or body, as opposed to where learners have a degree of choice over how they wish to make up their own learning bundle, which may or may not lead to a formal qualification. However, the distinction between the four quadrants in this credential map is not always as clear cut in reality. For instance, an individual learner could have a non-credit-bearing badge in project management. This badge could be assessed as recognition of prior learning by a university or as part of a wider learning portfolio, which, in turn, contributes to a micro-credential.

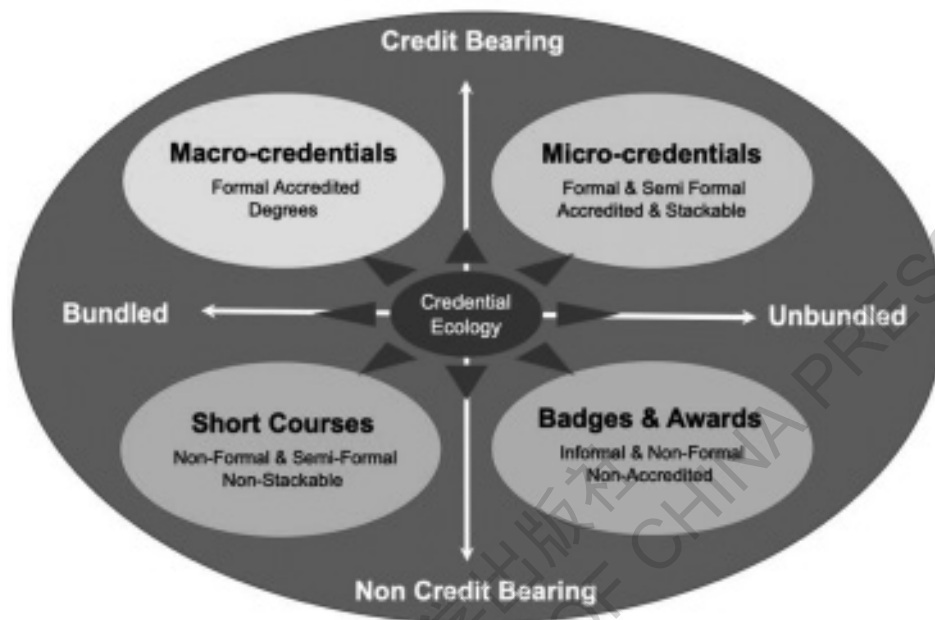


Fig. 5 The New Credential Ecology

Importantly, clarifying what is meant by a micro-credential is critical in addressing questions such as, “credentialed to do what?” or “how does it compare to a formal university-level degree?”. As Shapiro (2020)⁵ reports, “The lack of a shared definition is currently perceived as the most substantial barrier to further development and uptake of micro-credentials” in the European Union. Therefore, at the beginning of 2020 a special European Commission Consultation Group was established to develop a European-wide approach to micro-credentials. The European Commission’s (2020) much anticipated report was published in December 2020, with a roadmap and key building blocks for the development of micro-credentials in Europe. A common European definition was also a major outcome of the consultation process:

A micro-credential is a proof of the learning outcomes that a learner has acquired following a short learning experience. These learning outcomes have been assessed against transparent standards (European Commission, 2020)¹⁰.

While there are many competing and co-existing drivers underlying efforts to unbundle the traditional degree, including some that have their roots in the neoliberal learning economy (Ralson, 2021), increasingly colleges and universities are coming under the spotlight for not producing graduates with work-ready skills for today's jobs. Moreover, according to the World Economic Forum (2020) 50% of all current employees will need upskilling by 2025 due to the changing nature of work. In this regard, micro-credentials can help to meet growing demand for a more flexible education system, which harnesses the potential of online learning as more people in the future choose to earn as they learn. Perhaps more importantly micro-credentials can provide new pathways for lifelong learning, which help to enhance personal life chances and career opportunities, as well as the goal of developing more critical thinkers, critical consumers and critical citizens.

In summary, the field of micro-credentials remains immature but what this growing trend suggests is that the current credential system developed in the 19th Century along with the traditional “bricks-and-mortar” model of higher education is no longer fit for purpose. Frontloading skills and competences through our schools and higher education institutions is not sufficient to prepare active and well-educated citizens for new jobs, unknown careers and the rapidly changing nature of work. While sustainable funding remains a key challenge, DCU is uniquely positioned in the European context through its clear sense of mission, strong commitment to learning transformation and high-level strategic partnerships to play a major role in reshaping higher education for tomorrow's future, today.

5. The Next Normal

It would be naïve to think that DCU has all the answers or a crystal ball that allows us to see the future as we all continue to ride what has been dubbed “the Corona-coaster”. However, you do not have to be at the top of a rollercoaster or find a mysterious fortune teller to predict that it will be almost impossible to meet the projected growth in demand for higher education worldwide through traditional methods and delivery models. It is claimed, for example, that by 2050 almost

1 billion more places will be required to meet increasing global demand for higher education (HolonIQ, 2020b). While there will be regional differences as growth in demand is unlikely to be evenly distributed around the globe, the following calculations illustrate the scale of the challenges we face (Brown, 2020b). Imagine for a minute if we built one new university with a capacity to host 30,000 students, every single day of the year (i.e., 365 new universities supporting 10.9 m students) for the next 30-years (i.e., 10,950 new universities supporting 329 m students), then we would only meet around a third of the demand for places.

This quick calculation suggests that part of the “next normal” has to involve new models of digital education. Digital in part will not be sufficient to realise the goal of transforming lives and societies through increased access to higher education. This point returns us to the central thesis of the chapter as we have shown through the DCU experience the need for bold leadership, strategic partnerships and a transformative change agenda where digital education is at the heart of your mission. You cannot afford to wait for governments to respond or sit on the side-line of digital disruption, and other powerful change forces, as nothing more than a spectator or future taker. Instead, our lesson is that higher educators have to be future makers. After all, as the saying goes:

*If you're not at the table,
then you're more likely to be on the menu!*

References

- BOZKURT A, INSUNG J, JUNHONG X, et al., 2020. A global outlook to the interruption of education due to COVID-19 pandemic: navigating in a time of uncertainty and crisis. [2021-01-19]. <http://asianjde.org/ojs/index.php/AsianJDE/article/view/462>.
- BROWN M, 2020a. Hacking online learning: developing a digital edge. [2021-01-19]. <https://www.slideshare.net/mbrownz/hacking-online-learning-developing-a-digital-edge>.
- BROWN M, 2020b. A digital edge for new times: unboxing the online learner. [2021-01-19]. <https://www.slideshare.net/mbrownz/a-digital-edge-for-new-times-unboxing-the-online-learner>.
- BROWN M, 2017. DCU Fuse: 24-hour online collaborative brainstorm. Presentation under ethical leadership category at QS wharton reimagine education conference, philadelphia, 4th December 2017.

- BROWN M, COSTELLO E, DONLON E, et al., 2015. A strategic response to MOOCs: how one European university is approaching the challenge. *International review of research in open and distributed learning*, 16(6): 98–115.
- BROWN M, MAC LOCHLAINN C, NIC GIOLLA MHICHÍL M, et al., 2020. Micro-credentials at Dublin City University. [2021–01–19]. <https://youtu.be/KPMSKlbfQXo>.
- BROWN M, NIC GIOLLA MHICHÍL M, COSTELLO E, 2021. Learning how to teach online: a rapid massive collaborative response to Covid-19.[2021–01–19]. <https://www.slideshare.net/mbrownz/learning-how-to-teach-online-a-rapid-massive-collaborative-response-to-covid19>.
- DELANEY L, BROWN M, 2018. To walk invisible: distance students in a dual mode university. *Distance education*, 39(2): 209–223.
- DELANEY L, FOX S, 2013. The role of distance education in broadening access to Irish higher education. How equal? [2021–01–19]. <http://doras.dcu.ie/19966/>.
- Dublin City University, 2012. 2012–2017 DCU Strategic Plan—transforming lives and societies. Dublin: Dublin City University.
- Dublin City University, 2013. 2012–2017 Teaching and learning strategy. [2021–01–19]. <https://www.dcu.ie/qpo/previous-strategic-plans>.
- Dublin City University, 2017a. DCU strategic plan: talent, discovery, transformation 2017–2022, strategic plan, dublin city university, dublin. [2021–01–19]. https://www.dcu.ie/sites/default/files/qpo/dcu_strategic_plan_2017-2022_web.pdf.
- Dublin City University, 2017b. Finding of the Jisc student experience digital tracker survey. Dublin: Dublin City University.
- Dublin City University, 2020. Self-assessment report for digital learning review. Dublin: Dublin City University.
- European Commission, 2020. A european approach to micro-credentials: final report. [2021–01–19]. https://ec.europa.eu/education/resources-and-tools/document-library/final-report-a-european-approach-to-micro-credentials-output-of-the-micro-credentials-higher-education-consultation-group_en.
- European Consortium of Innovative Universities, 2020. Paving the road for the micro-credential movement. ECIU white paper on micro-credentials. [2021–01–19]. <https://www.eciu.org>.
- European Consortium of Innovative Universities, 2021. ECIU 2030 university vision: connects u for Life.[2021–01–19]. <https://www.eciu.org/news/eciu-university-2030-connects-u-for-life>.

- EuroStat, 2020. Participation rates in lifelong learning. [2021-01-19]. https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=sdg_04_60&plugin=1.
- FARRELL O, BRUNTON J, COSTELLO E, 2020. Pivot and the pandemic: professional learning during the time of Covid-19. [S. l.]: OE Global 2020 Conference.
- FARRELL O, BRUNTON J, COSTELLO E, et al., 2020. This is two different worlds, you have the asylum world and you have the study world: an exploration of refugees participation in online irish higher education. *Research in learning technology*: 28.
- Higher Education Authority, 2016. Key facts & figures: higher education 2015/16. [2021-01-19]. <http://hea.ie/assets/uploads/2017/06/HEA-Key-Facts-and-Figures-201516.pdf>.
- HolonIQ, 2020a. 2.5x global MOOC web traffic. [2021-01-19]. <https://www.holoniq.com/notes/global-mooc-web-traffic-benchmarks/>.
- HolonIQ, 2020b. \$74B online degree market in 2025, up from \$36B in 2019. [2021-01-19]. <https://www.holoniq.com/notes/74b-online-degree-market-in-2025-up-from-36b-in-2019/36>.
- KINSELLA E, 2020. *Dublin City University: designed to be different*. Dublin: Four Courts Press.
- MACKEOGH K, 2003. Open distance learning and elearning in ireland: opportunities and challenges in lionarakis//A (ed) proceedings of the second pan-hellenic conference on open distance learning. Patras: Hellenic Open University: 39-49.
- MCCUE T J, 2018. E-learning climbing to \$325 Billion by 2025 fu canvas absorb schoology moodle, forbes. [2021-01-19]. <https://www.forbes.com/sites/tjmccue/2018/07/31/e-learning-climbing-to-325billion-by-2025-uf-canvas-absorb-schoology-moodle>.
- National Forum for the Enhancement of Teaching and Learning in Higher Education, 2020. Irish national digital experience (index) survey: findings from students and staff who teach in higher education. [2020-05-17]. <https://www.teachingandlearning.ie/publication/irish-national-digital-experience-index-survey-findings-from-students-and-staff-who-teach-in-higher-education/>.
- NIC GIOLLA MHICHÍL M, BROWN M, 2019. The story of MOOCs through loops: from disruptive to sustaining innovation models of higher education. *Distance education in China*: 3.
- NIC GIOLLA MHICHÍL M, BROWN M, BEIRNE E, et al., 2020. A micro-credential roadmap: currency, cohesion and consistency. [2021-01-19]. <https://www.skillnetireland.ie/publications/>.
- NIC GIOLLA MHICHIL M, BROWN M, BEIRNE E, et al., 2017. Language learning MOOCs: classifying approaches to learning. Toronto: 27th ICDE World Conference on Online Learning, [S. l.]: [s. n.].

- Quality and Qualifications Ireland, 2019. DCU cinnte institutional quality review 2018. [2021-01-19]. <https://www.dcu.ie/qpo/dcu-institutional-quality-review>.
- RALSTON S J, 2021. Higher education's microcredentialing craze: a postdigital-Deweyan critique. *Postdigital science and education*, 3: 83-101.
- ROSSITE D, TYNAN B, 2019. Designing and implementing micro-credentials: a guide for practitioners. [2021-01-19]. <http://oasis.col.org/handle/11599/3279>.
- SHAPIRO H, 2020. Background paper for the first meeting of the consultation group on micro-credentials. [2021-01-19]. https://www.heilbronn.dhbw.de/fileadmin/downloads/news/ab_2014/Background_paper_on_Micro-credentials.pdf.
- STURGIS C, 2019. What's the difference between micro-credentials and badges? [2021-01-19]. <https://www.learningedge.me/whats-the-difference-between-microcredentials-and-badges/>.
- UN High Commissioner for Refugees (UNHCR), 2015. Sustainable development goal 4 and refugee education, july 2015. [2021-01-19]. <https://www.refworld.org/docid/59c368ed4.html>.
- WELLER M, ANDERSON T, 2013. Digital resilience in higher education. *European journal of open, distance and e-learning*, 16(1): 53-66.
- World Economic Forum, 2020. These are the top 10 job skills of tomorrow – and how long it takes to learn them. [2021-01-19]. <https://www.weforum.org/agenda/2020/10/top-10-work-skills-of-tomorrow-how-long-it-takes-to-learn-them/>.

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS



Elizabeth Johnson

What is evident is that from the beginning the choice to be a dual mode university and develop standards integrating learning design for on- and off-campus students drove the strategic vision of the University and enabled the development of an innovation culture where distance and campus-based modes were co-developed in synergy.

Prof. Elizabeth Johnson is Deputy Vice-Chancellor (Education) of Deakin University Australia from 2014, and provides strategic leadership for Deakin's ambitious curriculum reform and management of the student learning experience with oversight of the online learning environment, teaching innovation and course development projects and building staff capability for learning and teaching. Prof. Johnson was the founding Director of the Australian Council of Deans of Science's Teaching and Learning Centre. Her leadership has been recognised through a National Teaching Fellowship (2012), national and institutional awards (2006, 2007) and competitive grants (2009 to 2016). Prof. Johnson has been trained as a plant biochemist and taught university biochemistry for over 30 years. She now researches and publishes in areas associated with work-integrated learning and digital credentialing.



Deakin University
<https://www.deakin.edu.au/>

Online at the Core: Lessons Learnt from the Deakin Journey

Elizabeth Johnson, Vice President of Deakin University, Australia; Marcus O'Donnell; Helen Partridge

1. Introduction

The story of online learning is a story of change and innovation. It is illustrated by the journeys of institutions that have chosen to focus on online education as they navigated changes in students, pedagogy, external contexts and the rapid rise of online technologies. The story of these institutions points to strategies that can sustain online learning and the principles that could guide future development. This paper describes the development of online learning at Deakin University, a large comprehensive university in south-eastern Australia established with a mission to increase learner access. Tight linking of learner-centred design, digital technologies and innovation have shaped Deakin's journey in online education and describe a productive synergy between on-campus and online learning.

The first Australian universities were established in the mid 19th century to build capacity for the professions. New universities emerged slowly at first and then in a flurry following major reforms to the sector in the second half of the 20th century. A number of these, including Deakin, focused on increasing access to higher education. With few exceptions, Australian universities are public institutions with significant government funding and regulation (Norton et al., 2018). They are governed by national and state regulations and required to be active in research and teaching. All public Australian universities are comprehensive, teaching and researching in a wide range of disciplines. Focus on online education varies with the educational mission of each institution, although all now use digital learning environments to support learning.

In 2020, Deakin University had over 60,000 students spread across undergraduate (70%), postgraduate coursework (27%) and higher degree students (3%). Deakin is a multi-modal education provider with approximately 25% of its students enrolled in a course (program or degree) delivered online in 2019—in some cases accompanied by intensives or placements. Remaining students are enrolled at a physical campus but of these over 60% elect to include one or more online subjects within their course enrolment. Online courses are offered across a wide range of disciplines including large enrolments in business, education, health and engineering. Online enrolments have consistently grown more rapidly than on-campus enrolments from 2017 to 2019. Online education at Deakin commands considerable attention and investment.

The success of online learning at Deakin University is the product of four decades exploring remote teaching and education design, delivery and technologies. Deakin was established in 1974 as the fourth university in the state of Victoria. In addition to conventional goals for excellence in teaching and research, it was given an explicit mission to deliver distance education with “a particular commitment to rural and regional communities and to providing equitable opportunities for people to enjoy the benefits that flow from participation in higher education.” (Deakin University Act, 2009). From the base of distance education, Deakin has translated remote delivery into online education and in the process made its affordances core for all Deakin courses. The University also has an ongoing mission aspiring to be “Australia’s most progressive university” and has adopted an innovation approach to developing online education (Deakin University, 2020). In this chapter we will present the lessons learnt from the University’s journey from distance to online education, highlighting projects that fostered transformation and conclude with reflections about implications for the future. We will argue that Deakin’s success as an international leader in distance and online education arises from a strong institutional vision that has been translated into strategic ways of working which foster a culture of innovation.

2. From Distance to Online Education

Deakin University was established in a regional centre, offering both on-campus and distance

learning. A series of institutional mergers in the late 20th century expanded its provision to a large, multi-campus institution attracting diverse students from regional, metropolitan and international backgrounds (Hay et al., 2002).

Deakin positioned itself as an innovator in online education by making delivery to students off-campus an explicit priority. Institutional focus on high-quality, remote learning has created a virtuous cycle by prompting localised action to meet discipline and student requirements and the development of new teaching approaches and resources. Expansion of online delivery prompts systemic technological innovation for delivery at scale which then creates institutional capacity to support diverse learners and enable participation (see Fig. 1).

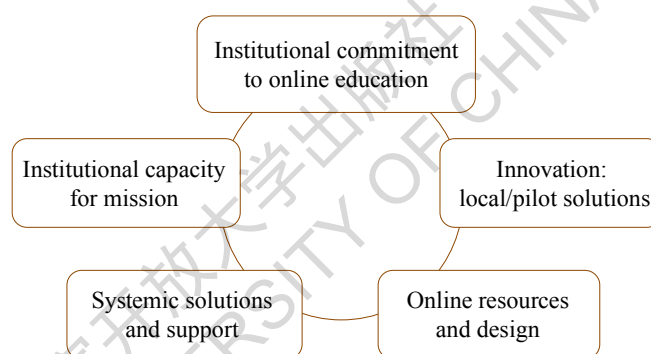


Fig. 1 The Innovation Excellence Cycle

Tracing the path of online learning development illustrates the twin influence of internal institutional factors and external enablers. In Deakin's case, commitments to quality and access combined with the impact of external technological change produced a culture of innovation and excellence.

Deakin's first commitment was to high-quality teaching. At Deakin's establishment in 1974, distance education in Australia was conventional, with limited interaction between students and teachers. The pattern of sending resources and tasks by mail, reviewing student work as it arrived and then returning with feedback and advice forced slow and limited discussion but did expand access. Latchem (2018) describes three developmental phases for Australian distance education.

- Correspondence/external studies, largely by means of mail and lacking direct student interaction with the teacher (1910–1970s).
- Distance education, using multi-media and two-way communication to improve the effectiveness of the teaching and learning (early 1970s to mid-1980s).
- Open, flexible and online learning, using the Internet and digital technologies and providing increased student-teacher/student-student interaction, collaborative group work and flexibility for the learners (mid-1980s to the present day).

Deakin initiated distance education using extensive print materials, supported by student attendance at weekend schools held in regional areas. The new University invested in high-quality learning resources and won several awards for its study guides (Hay et al., 2002). The legacy of this period was a commitment to excellent learning resources and the early exploration of learning designs for asynchronous delivery.

Deakin's commitment to high-quality teaching also prompted championship of distance education. Early examples positioned distance education as a separate and, sometimes, second-class relative to on-campus learning (Latchem, 2018). From its inception, Deakin championed education at a distance as an equal but different mode of delivery (Jevons, 1984). Deakin launched the first online Master of Business Administration in Australia in 1980 to considerable interest from students (Hay et al., 2002). Criticism of the course by a Federal Government committee in 1982 prompted a vigorous defence by the University, maintaining remote learning offered equal quality and equal outcomes for learners. Public advocacy reinforced the institutional commitment to excellence which proved crucial in maintaining a focus on innovation and quality. This advocacy was matched with systematic research on best-practice models for distance and online learning and in the late 80s and early 90s, Deakin hosted several national research symposia, expanding the field and its own vision for online learning.

The importance of interaction in online education, as summarised by Moore (1989), was becoming clearer to scholarly teachers. Developments in digital systems and, eventually, Internet connectivity, enabled the move to Latchem's second phase of distance education. At Deakin, transformation to digital education was initiated through introduction of online technologies,

improving communication between students, their peers and teachers as described in detail by Calvert (2001). New approaches and tools were not only enabled by technology but by particular strategic ways of working. Deakin adopted the course team approach that had been pioneered by the UK's Open University (Calvert, 2001; Jevons, 1984), positioning the development of distance education, and later online materials, as both professional development as well as an effective way of producing high-quality materials for all students. Fred Jevons, Deakin's inaugural Vice-Chancellor, was explicit about the advantages of being a "Dual Mode" university that embraced both distance and located learning. He encouraged the interaction between specialist distance/online education and Deakin's on-campus delivery (Jevons, 1984), suggesting that the skills required for focused distance delivery enhanced the quality of Deakin's teaching and learning across the board.

Deakin's second commitment was to increase access to higher education. From the outset, Deakin has had a mission to bring higher education to students in remote and regional Australia. However, barriers for students extend beyond geography to work, caring commitments and personal circumstances such as disability. Learning offered outside the constraints of physical space and often asynchronously has extended access to learners who otherwise would be excluded. By 2018, one in five domestic students in Australian universities chose to study online and off-campus enrolment was growing faster than on-campus enrolment (Norton et al., 2018).

The early institutional commitment at Deakin was to provide equivalent quality and opportunity to all learners. This promise encompassed academic and service activity and established the idea of learner-centric design where the whole experience of the learner is considered. Calvert (2001) noted the influence of this commitment in her description of the development of online learning at Deakin.

The integrated structure of teaching and support services at Deakin is a legacy of the original university established in 1975 [sic]. An "open campus" was envisioned wherein all students, whether on campus or off, would use the same high quality learning resources and have opportunities for meaningful interaction with staff and peers.

...Importantly, <the concept> was extended to the organisation of academic support and administration, with each Division charged to provide equivalent, if not identical, services to all students, whatever their mode of study. This form of organisation has had a certain benefit as the use of online technologies becomes ubiquitous: each faculty and division has a core understanding of flexible provision and an infrastructure that accommodates this.

(Calvert, 2001)

The third factor shaping Deakin's journey as an innovative multimodal provider was the availability of education technologies, enabling universities to move from a distance to an online model and coinciding with the third phase of Latchem (2018) model. Over the last 40 years, the paradigm shift to ubiquitous Internet access has allowed exponential increase in access to information, resources and tools, new affordances in communication and interaction, and real-time management of student learning. Digital technologies have fundamentally changed the nature of university education. The release of the World Wide Web in 1982 revolutionised access to information, resources and learning tools. Memorising large blocks of content became obsolete with authoritative sources instantly available. University libraries quickly incorporated online materials in their research collections with resources filtering through to teaching. The Deakin Library was an early adopter of computerised catalogues, digital repositories and metadata systems and an active contributor to online course development (Hay et al., 2002).

In parallel, early initiatives at Deakin used online communication tools to meet the challenge of interactivity in distance education. In 1981, Deakin's Graduate Diploma of Computing pioneered digital delivery. Innovations in this course included providing desktop computers to distance students and developing dial-up communication systems. By 1987, the University allocated all students a free email account and, by 1990, had introduced a prototype software platform for online communication. The popularity of online communication drove rapid development and uptake of new online learning environments. Calvert (2001) reports the number of computer conferencing users accelerating from 45 in 1995 to 5000 in 1997 and 22,000 by 2000. Within these five years, online communication with students had become normal and expected by both staff and students although access to high bandwidth services was and continues to be limited for

students in regional and remote locations.

Drawing online tools and resources together in one package was a natural evolution for digital education and led to the genesis of learning management systems (LMS) or virtual learning environments (VLE) (Watson et al., 2007). Deakin was an early adopter, for some courses introducing the *FirstClass* platform, an early proto-LMS combining email and bulletin boards and pioneered by the Open University (Sclater, 2008). Consolidating learning resources and tools highlighted the affordances of online organisation of learners and learning and prompted use of digital tools for creating study groups, timetabling, and managing assessments. By 2003, 60% of subjects (units) were using digital platforms to provide static information. A further 27% of units also incorporated interactive tools such as announcements, discussion, groupwork and assignment submission, prompting installation of Deakin's first institutional LMS (Coldwell et al., 2004). This featured integration with other university systems, including the Library, and user authentication, permitting use of licensed materials and control of the platform.

In the move to a digital learning environment, Deakin also required all enrolling students to have access to the Internet, providing advice and support on suitable personal hardware as well as on-campus computing facilities. The development of technological systems has been an important part of Deakin's culture of innovation and these early attempts at creating linked-up systems were further advanced with the establishment of Deakin Online in 2003 and the new Deakin Gateway and Portal, the first try for a seamlessly integrated student experience for both online and on-campus students. This search for seamless integration continues today with our Digital Learning Environment Roadmap project which aims to create the much-touted Next Generation Digital Learning Environment (Brown M et al., 2015).

3. Building a Strategic Vision

Deakin used its strategic plans to articulate its commitment to online education to public and institutional audiences. Iterated strategic commitment fostered action which steadily built progress. Tab. 1 sets out the phases of Deakin's development as a digital university. It

demonstrates the integration and progress at each stage of institutional strategic vision, noting step-change projects which translated vision into practice as well as providing opportunities to deepen further the University's culture of innovation. What is evident is that from the beginning the choice to be a dual mode university and develop standards integrating learning design for on- and off-campus students drove the strategic vision of the University and enabled the development of an innovation culture where distance and campus-based modes were co-developed in synergy.

Tab. 1 The Evolution of Deakin University's Vision for Online Education: Strategy, Projects and Related Educational Research^①

	Strategy and vision	Projects and milestones	Research and influence
Premium Distance Education and Early Online Initiatives (1980s)	Distance Education can be a pace setter for higher education as a whole. In the 1970s it was natural for DE to try to carve out a special niche for itself—to emphasise the differences from traditional education and the distinctiveness of its students... It is time for DE to come out of its corner into the centre of the higher education arena. There are ways in which it could make contributions to higher education as a whole. <i>Inaugural Deakin Vice Chancellor Fred Jevons on advantage of being a Dual Mode (distance and located) provider (1984).</i>	1978 Delivery of first Deakin courses; 1980 Deakin launches first online Master of Business Administration in Australia; 1981 Introduction of online Graduate Diploma in Computing; 1982 Move from separate Distance Education Team to structural integration of distance education within Faculties and Schools of the University	1987 Development of AOLIN with The Open University UK, a computer based communication system as a meeting place for educational technologists and researchers

① A timeline of Deakin University's history. [2021–01–19]. <https://history.deakin.edu.au/s/hd/page/home>. Individual documents were sourced from internal University archives.

(Continued)

	Strategy and vision	Projects and milestones	Research and influence
Flexible Learning (1990s)	Deakin will build upon its reputation in the provision of distance and flexible enrolment and study options to become a global university, respected internationally both for the quality of its educational provision and for innovative application of information technology to teaching. <i>Deakin Strategy Framework 1999</i>	1994 \$2.7 m Federal Government grant to develop technology-based infrastructure; 1997 Deakin Learning Toolkit CD-ROM as learning support for all students	Deakin hosted a series of national seminars “Research in Distance Education” 1989–1996
Deakin Online (2000s)	Ensuring that Deakin’s distance education courses and services set world standards for excellence, are aligned to student needs and make innovative use of technology including, where appropriate, the delivery of the course online; Progressively introducing online resources and learning experiences to both distance education and campus-based programs to enhance, and where appropriate, transform, teaching and learning <i>Taking Deakin Forward Strategy 2003</i>	2000 Discussion paper on virtual e-Campus 2002–2003 New policies introduced: Online Technologies in Courses and Units; Code of Good Online Practice 2003 Establishment of PVC (Online Services) 2003 Deakin Online established including Deakin Gateway and Portal (2002–2004)	Deakin practitioner researchers contributed to international publications on distance education, documenting and theorising Deakin initiatives (e.g., Julianne Calvert and Elizabeth Stacey)
Driving the Digital Frontier (2010s)	Deakin University offers you a borderless and personalised relationship, creating the power and opportunities to live the future in a new world. Deakin will be Australia’s premier university in driving the digital frontier—to enable globally connected education for the jobs of the future, and research that makes a difference to the communities we serve <i>LIVE Agenda 2012</i>	2013–2016 Course Enhancement; 2014 DeakinSync digital hub; 2015 IBM Watson virtual assistant; 2016 Cloud Campus established; 2017 Degrees@FutureLearn; 2018 CloudFirst Course Renewal; 2018 Genie student mobile virtual assistant	2011 Beverley Oliver awarded National Fellowship, joining Deakin in 2012 as PVC Learning Futures 2014 Centre for Research in Assessment and Digital Learning (CRADLE) established

By 2004, Deakin had developed its online education sufficiently to require all commencing students to enrol in at least one online subject (unit). Although this requirement was later removed, the strong commitment to online education had successfully translated from distance education to mainstream delivery and set the scene for a digital university. The next step was to refine educational design to maximise benefit from digital delivery by focusing on the whole learner.

In traditional distance education, the emphasis was on product: the learning resources.

In the online environment, the emphasis shifts to include not only planning for courses but consideration of what occurs during learning. (Calvert, 2001)

One result of operating as a multimodal institution is that Deakin has built a sophisticated practice in teaching and learning which effortlessly integrates thinking about traditional, on-campus delivery and distance/online delivery. The maturity of this approach is evident in the suite of projects that emerged with the launch in 2012 of *LIVE the Future: Agenda 2020* (Hereinafter referred to as *LIVE Agenda*).

4. Driving the Digital Frontier

The language of the *LIVE Agenda* is consistent with earlier strategy documents (see Tab. 1) but it signals a step change, putting the emerging global digital economy at the heart of the Deakin Offer:

Deakin University offers you a borderless and personalised relationship, creating the power and opportunities to live the future in a new world. Deakin will be Australia's premier university in driving the digital frontier—to enable globally connected education for the jobs of the future, and research that makes a difference to the communities we serve.

Several projects stemming from this ambition accelerated online education by enabling innovation, demanding high-quality teaching and learning, and mandating the personal student

experience as a measure of success. The first venture included consolidation and renewal of online education tools, resources and approaches; development of Deakin's first massive open online course (MOOC) on an open platform; and launch of a new student digital hub, DeakinSync, which gathered the University services and information in a user-oriented interface. Deakin won the prestigious Wharton QS Stars Reimagine Education Oceania Award in 2014 for the success of the MOOC and the application of the innovations trialled in it to the University's online learning environments. Again, targeted innovation produced systemic capability. The result was a wraparound digital environment integrating the University's LMS and other tools to enhance campus learning for on-campus learners and provide a full experience for online learners. It exemplified Deakin's original vision of an "open university".

Design of DeakinSync prompted a closer look at the whole student experience using comprehensive mapping of the student user experience journey (O'Donnell et al., 2020). Deakin created the Cloud Campus, a new construct, to ensure that the experience of online students was not lost amongst the needs of on-campus learners. Consistently referring to the online student cohort as one of the University's campuses, equivalent to its geographic locations, focussed attention on equitable services to all students. The Cloud Campus team worked with online students, now "Cloud" students, through social media and outreach programs, to build a sense of belonging. The team worked with Faculties and services to build awareness of the distinct needs of online students, fulfilling Deakin's promise of anywhere, anytime education with a full-service model using online channels. This continued Deakin's practice of focusing on the whole student, matching learning delivery with service design using an integrated, rather than a siloed, model.

One of the most significant initiatives in this period was a whole-of-institution renewal project, Course Enhancement. This project was a curriculum mapping and re-design for all Deakin courses (programs) to ensure that course learning outcomes and assessments were aligned and fit for the 21st century. The scale of the project enabled systemic change, incorporating widespread uplift of digital delivery, such as moving from broadcast lectures to concise multimedia material. Course Enhancement was, in part, necessitated by new government Higher Education Standards which demand closer alignment between course learning outcomes, national standards and student assessments (Oliver, 2015). However, Deakin leveraged this external factor to drive significant

change; as Nash, Kelder, Williams, and Ellis (2020) point out, Deakin was one of only three Australian universities to take such a comprehensive approach. Professor Beverley Oliver, then newly appointed PVC Learning Futures (and later Deputy Vice-Chancellor Education), brought Deakin expertise in curriculum mapping (Oliver et al., 2010), assurance of graduate outcomes (Oliver, 2013) and evidencing achievement for graduate employability (Oliver, 2015) from institutional and national projects which, in turn, ensured Deakin's Course Enhancement drew on and contributed to the scholarship of teaching and learning. Course Enhancement linked Deakin's online ambitions to a rigorous, integrated, whole-of-institution quality framework and laid the groundwork for the next stage of Deakin's online innovation journey.

A third major initiative broke new ground in learning design. In 2016, Deakin joined the UK-based FutureLearn platform, then wholly owned by The Open University and the fourth largest MOOC provider. Deakin chose FutureLearn for its purpose-built platform, designed for social, interactive, multimedia learning in a visually appealing way, using Diana Laurillard's model of conversational learning (Laurillard, 2002, 2013). In 2017, Deakin launched a suite of postgraduate courses (degree programs) on FutureLearn, becoming the first university to offer whole degrees, fully online on a global MOOC platform. While early innovators like Georgia Tech and the University of Illinois at Urbana-Champaign had launched individual degree programs, Deakin offered diverse disciplines including cyber security, humanitarian development, property management, leadership, and diabetes education. The programs were designed to begin with short, free, taster modules leading to paid subjects and full courses. Deakin also experimented with new forms of programs, combining content delivery on FutureLearn with standards-based micro-credentials using portfolios of prior professional experience to evidence achievement of learning outcomes.

The Degrees@FutureLearn project aimed firstly to enhance Deakin's visibility as a global online provider and secondly to make a step change in course delivery and ways of working. The project had several important effects in the way that the University approached online learning design and delivery:

- creation of specialist teams of learning designers and multimedia producers working closely with academic subject matter experts, in expanded course teams;
- the platform's inbuilt learning steps and interaction points demanded templated modular design, expanding the institutional understanding of learning design and challenging conventions;
- short, free, taster modules, extracted from postgraduate-level units (subjects) required clarity, simplicity and engagement matched with academic rigour.

Together, these major projects instigated new ways of working which leveraged complementary expertise. This capability was articulated in Degree Design Thinking (Adachi et al., 2019; O'Donnell et al., 2020), a framework for integrated design. It describes four complementary types of design needed to build effective, digital-ready degree programs:

- **Portfolio Design** that ensures an integrated mix of courses, pathways and macro and micro-credentials;
- **Team Design** that enables effective work practices and collaboration across academic and professional staff;
- **Learning Design** that enables task focused, social learning design and authentic assessment;
- **Service Design** that ensures a student-centred, journey-driven approach to a seamless user experience.

The cumulative experience of this period of growth is captured by the Deakin Principles for Premium Learning and Teaching (see Tab. 2). These principles were created from a thorough review of the literature, tested against evolving practice in the innovation projects such as Degrees@FutureLearn and Course Enhancement. In 2018, following a university-wide consultation process, the Principles were embedded in the Deakin Curriculum Framework as policy. Systemic solutions had boosted capability and raised the standards for online teaching, again illustrating the value of the iterative process linking innovation to systemic change (see Fig. 1).

Tab. 2 Deakin's Principles for Premium Learning and Teaching Form**Part of the University's Higher Education Courses Policy^①**

Deakin principles for premium learning and teaching
1. All learning at Deakin is active and collaborative: learners use active investigation to develop skills and knowledge and explore application in authentic professional contexts. Learning enhances student autonomy, develops evaluative judgement and fosters lifelong learning
2. Learning is designed across units and courses to build towards achievement of graduate learning outcomes. Learning activities, assessment and outcomes are aligned to create a consistent and integrated learning pathway that fosters deep learner engagement
3. Learning is inclusive: learning experiences and environments are designed to accommodate student diversity, and create equivalent opportunities for academic success for all learners in rich online (cloud-first) and located learning activities and spaces
4. Learning is scaffolded in a clear narrative sequence that communicates the relationship between activities, tasks and learning outcomes
5. Learning is activity-focused: there are clear calls to action and a mix of learning activities that lead to defined, summative assessment tasks
6. Learning is feedback-focused: activities and assessments provide multiple opportunities for formative feedback from both staff and peers
7. Learning is social: students are welcomed into a respectful, vibrant learning community with multiple opportunities for dialogue and interaction with teaching staff and fellow learners
8. Learning is supported by student services which enable participation and success, academic support services to develop underpinning knowledge and skills, and high production-value learning resources
9. Learning progress is tracked through data on learning behaviours and achievement and acted upon to maximize student success and improve curriculum design
10. Learning design at Deakin is a collaborative multidisciplinary activity that engages a range of discipline based academics, education specialists and support staff that match content expertise with expertise in learning design, delivery, support and resource production

Application of these Principles combined with the new, integrated ways of working produced a second wave of broadscale curriculum rebuild: CloudFirst Course Renewal. CloudFirst, as its name implies, stems from a firm belief that design for the needs of online learning—a highly scaffolded and explicit approach to the sequencing and orchestration of learning activities—results in high-quality learning resources and environments for all students. For Deakin, this is the maturing of ideas first articulated by the University's inaugural Vice-Chancellor who advocated

^① Higher Education Courses Policy available in the Deakin Policy Library.

what was then a radical approach: that designing for students at a distance would enable pedagogical innovation for all (Jevons, 1984). The shift to “Cloud” accelerated an integrated view of online learning, drove innovation, upgrade of tools and resources and set the scene for a comprehensively digital university.

5. New Horizons: Integrated, Authentic and Independent Learning

Deakin’s education portfolio continues to offer on-campus and online learning in an increasingly blended environment. Digital is the norm and all students expect to interact through online channels. The value of the institutional commitment and investment in Deakin’s multimodal approach was demonstrated during 2020 when the global COVID-19 pandemic hit Australia. The Government response to contain the growing health crisis shut university campuses and shifted all education online. In the State of Victoria, Deakin’s home, campuses were closed in two waves for eight months of the academic year. Online became the only mode of study.

The rapid cessation of normal delivery had a momentous impact on higher education globally (Marinoni et al., 2020). Most universities activated emergency remote teaching in their crisis response. This quick response mode is clearly differentiated from considered and intentional online learning design (Hodges et al., 2020). Thanks to its commitment to multimodal delivery, Deakin began its pandemic response with considerable resource and capability in online education. In response to the pandemic and government restrictions, Deakin transferred all teaching and assessment online and provided additional support for students including course (program) advice, financial assistance and extended deadlines in cases of extenuating circumstances and disadvantage.

The outcomes for students were largely positive despite very difficult conditions. Overall, student satisfaction and success continued upward trends despite the disruption and, importantly, the large majority of students were able to progress through a full year of study. Deakin’s online education expertise had carried the University through extended campus closure.

Deakin's pandemic response emphasized the value of long-standing approaches to education development. During 2020, the importance of collaboration between academic and service teams and the learner view were reinforced. Teams from faculties, the library, student administration, student services and support, campus services and IT services met weekly to plan and implement revised delivery encompassing portfolio, learning, service and team design. This approach carried forward the ways of working established through the early transition from distance to online learning and the wave of innovation that produced Deakin's Cloud Campus.

The heritage of scholarly research and evidence-based practice seen in earlier digital development also proved essential. Deakin adopted an evaluation strategy to ensure Deakin learnt, intentionally and strategically, from responding to COVID-19. The strategy provided evidence-based insights to inform systemic responses and further advance the University's online learning and teaching practice. Early results from the evaluation show the pandemic response has accelerated trends emerging from earlier innovation which will feed into the University's continuing digital maturity. Looking to the future, Deakin will build premium quality learning experiences to suit the diverse needs of learners and professions in the context of a changing digital world. Echoing global issues in education, our next activities will focus on three interconnected parts of our digital education approach: integrated learning, authentic assessment and independent learners.

Integrated (or blended) learning is now the preferred learning and teaching model of many students (Deloitte, 2020). It offers students greater flexibility over how, when and where they study, provides access to a more tailored experience noting personalisation and independence have positive impact on student engagement. A new type of blended learning is emerging from the response to COVID-19, sitting at the intersection of the online and offline worlds, leveraging the affordances of both modes and echoing a digital world. This new mode breaks down the distinction between online and on-campus education by integrating in a seamless way the affordances of in-person (on-campus, in community, in workplace) with online experiences.

A shift away from on-campus learning to more personalised and student-focussed engagement mediated by and through digital technologies will have its challenges. Deakin is embracing these challenges by building on precursor projects such as CloudFirst (digital first learning design), and

Active Learning (active and collaborative learning design). Insights from these projects provide the building blocks for Deakin's emerging integrated learning design. Integrated learning will underpin Deakin's approach to digital education by providing immersive and authentic learning experiences supporting the development of our students' digital fluency and citizenship for a digital world.

Assessment drives student learning. As Boud (2000)¹⁵⁵ notes, assessment “provides an authoritative statement of ‘what counts’ and directs students’ attention to those matters. It tells us what to learn.” Designed well, assessment prepares students for work and life by creating a rich dialogue that scaffolds, motivates and confirms mastery of skills and knowledge, or pinpoints opportunities for reflection and improvement. Designed poorly, assessment can focus learning in unhelpful ways such as towards memorisation, compartmentalisation of knowledge or the performance of boutique tasks which have little relevance for work or life. The growth of online learning, accelerated by COVID-19, has forced universities to radically rethink assessment, especially examinations. Examinations have long been critiqued for their lack of authenticity, relevance to students’ future lives, and the challenges they present to inclusivity (Brown S et al., 1994).

At Deakin during 2020, many examinations were replaced by a greater variety of assessment tasks embracing digital options. As universities start to imagine a post-pandemic future, they are faced with a choice—return to the way things were or embrace changes to assessment, and especially examinations, for the long term. There are many points to consider in determining how to change traditional assessments in a sustainable way while acknowledging disciplinary and professional needs and context. Deakin is leveraging existing projects such as Online Exams and the Digital Learning Environment Roadmap to re-imagine our approach to assessment and, especially, examinations. This process will transform the range of assessment tasks we embed within our curriculum; and more importantly it will help us to re-think the role of assessment in the student experience, and how it can be an enabler for supporting authentic and meaningful learning.

Deakin's long history working with distance learners and the experience of the COVID-19 pandemic remind us that learning is as much a socio-emotional as it is a cognitive experience.

Students have complex lives; and there are many factors that may negatively influence a student's mental health and wellbeing, for example, financial stress, lack of sleep, poor nutrition, balancing work, caring and study responsibilities, increased autonomy and responsibility, and pressure to excel in a competitive job environment (Orygen, 2020). Universities need their organisational context and ways of providing education to build students' agency and independence in their studies. During the pandemic, all Deakin students became Cloud students. Student support and engagement therefore was predominantly mediated by and through digital technologies. As noted from early stages, digital delivery offers new and additional affordances to support students.

Online technologies offer irresistible opportunities to increase and entrench communication and interaction in the learning experiences of on-campus students, thereby improving their quality and scope.

(Calvert, 2001)

Building upon our experiences Deakin will continue striving to create a learning environment that nurtures the mental health and wellbeing of all students, fostering an environment of guidance and support, enabling students to thrive in their academic and personal activities.

6. Conclusion

Deakin's journey in online education was born from its core commitment to excellence, access and innovation. Our analysis suggests four factors were critical to becoming an international leader in digital education:

- deep institutional commitment: including integration of online and distance education into the University's strategic vision. Although this commitment was inherent in Deakin's founding documents, it is one that was fostered and developed by successive generations of leaders and one which adapted to changes in society, changes in student needs and changes in the digital environment.
- a culture of continuous innovation: including funding of significant step-change projects as well

as business-as-usual approaches. Deakin's approach to building an institution-wide innovation culture has been iterative through the constant commitment to resource both new infrastructure and new approaches.

- a focus on the whole learner that integrates student support and learning delivery: this has been inherent from Deakin's early attempts to support distance learners and the creation of the Cloud Campus and associated technological infrastructure gave concrete expression to these values and ways of working.
- integration of research and practice: Deakin's approach to digital innovation has always been a scholarly practice as well as matching technical development with pedagogic investigation and evaluation.

Transformation from distance education to contemporary online education is demanding. The large projects which enabled digital learning environments and profound shifts in curriculum and learning design at Deakin were supported by significant investment in direct funding and in-kind workload. Deakin was fortunate to be able to invest and take advantage of a wave of capability-building in the higher education sector in Australia during this period^①. However, managing the pace of change has also been challenging. During the last ten years, Deakin has delivered four major institutional projects in addition to maintaining continuous improvement and smaller scale innovation activities. Engagement and enthusiasm for this work is dependent on the visible value to staff and students. Quick wins were important to maintain culture and commitment.

One of the hallmarks of successful innovation is iteration (see Fig. 1) and one of the affordances of iteration is a problem-solving approach that recognises the gap between vision and execution. Continuous innovation is necessarily difficult and is particularly challenging in a rapidly evolving digital context. Carvalho and Goodyear (2018) point out that innovation in higher education tends to be unevenly distributed:

Some kinds of innovation—particularly where government policies are being mandated—sweep across the whole system, with very variable effects on actual

① Universities Australia Learning and Teaching Repository. [2021-01-19]. <https://ltr.edu.au/>.

practice. Other kinds of innovation are typically small-scale, locally managed and iterative: often on tight timescales.

One factor they point to as causing this uneven distribution is the failure to integrate design practices at the macro (institutional planning), micro (learning design) and meso (staff and student experience design) levels. In this paper, we have focused on the development arc of the macro journey. The various projects that Deakin has undertaken in its now four decades of experience as a digital innovator have gone part-way towards integration across all three levels but we are acutely aware that the innovation journey is, by definition, never finished.

References

- ADACHI C, O'DONNELL M, 2019. Degree design thinking: integrated design frameworks for emerging online degrees in higher education. Research repository: 348.
- BOUD D, 2000. Sustainable assessment: rethinking assessment for the learning society. *Studies in continuing education*, 22(2): 151–167.
- BROWN M, DEHONEY J, MILLICHAP N, 2015. The next generation digital learning environment: a report on research. ELI Paper. Louisville, CO: Educause April, 5(1): 1–13.
- BROWN S, KNIGHT P, 1994. *Assessing learners in higher education*. London: Psychology Press.
- CALVERT J, 2001. Deakin university: going online at a dual mode university. *The international review of research in open and distributed learning*, 1(2).
- CARVALHO L, GOODYEAR P, 2018. Design, learning networks and service innovation. *Design studies*, 55: 27–53.
- COLDWELL J, NEWLANDS D, 2004. Deakin online: an evolving case study. *Journal of issues in informing science and information technology*, 1: 1–10.
- DAVIS G, 2017. *The Australian idea of a university*. Melbourne Univ.
- Deakin University, 2020. Deakin 2030: ideas to impact. [2021–01–19]. <https://www.deakin.edu.au/about-deakin/strategic-direction>.
- Deakin University Act, 2009. Australia: Deakin University Act(Vic). [S. 1.]: [s. n.].
- Deloitte, 2020. Where to now? Blended Futures. Higher education in a changing world. [2021–01–19]. <https://www2.deloitte.com/au/en/pages/public-sector/articles/where-now-blended-futures>.

html.

- HAY R, LOWE D, GIBB D M, et al., 2002. Breaking the mould: Deakin University, the first twenty-five years. Deakin University.
- HODGES C, MOORE S, LOCKEE B, et al., 2020. The difference between emergency remote teaching and online learning. *Educause review*, 27: 1–12.
- JEVONS F, 1984. Distance education in mixed institutions: working towards parity. *Distance education*, 5(1): 24–37.
- LATCHEM C, 2018. Open and distance education in Australia, Europe and the Americas: national perspectives in a digital age. *Springer nature*: 131.
- LAURILLARD D, 2002. Rethinking university education: a conversational framework for the effective use of learning technologies. London: Routledge Falmer.
- LAURILLARD D, 2013. Teaching as a design science: building pedagogical patterns for learning and technology. London: Routledge.
- MARINONI G, VAN'T LAND H, JENSEN T, 2020. The impact of Covid-19 on higher education around the world. *IAU Global Survey Report*.
- MOORE M. G, 1989. Three types of interaction. Taylor & Francis.
- NASH R E, KELDER J-A, WILLIAMS A-M, et al., 2020. Quality pursuit: an academic informed, evidence-based approach to assurance of learning. *Journal of applied learning & teaching*, 3: 1–11.
- NORTON A, CHERASTIDTHAM I, MACKEY W, 2018. Mapping Australian higher education 2018. Retrieved from Carlton, Victoria, Australia.
- O'DONNELL M, SCHULZ L, 2020. Learning design meets service design for innovation in online learning at scale. *Tertiary online teaching and learning*: 45–60.
- OLIVER B, 2013. Graduate attributes as a focus for institution-wide curriculum renewal: innovations and challenges. *Higher education research & development*, 32(3): 450–463.
- OLIVER B, 2015. Assuring graduate capabilities: evidencing levels of achievement for graduate employability. [S. l.]: Australian Learning and Teaching Council.
- OLIVER B, FERNS S, WHELAN B, et al., 2010. Mapping the curriculum for quality enhancement: refining a tool and processes for the purpose of curriculum renewal//Paper presented at the Australian Universities Quality Forum. [S.l.]: [s.n.].
- ORYGEN, 2020. Australian universities mental health framework (draft). [2021–01–19]. <https://www.orygen.org.au/Policy/University-Mental-Health-Framework/Orygen-Uni-MH-framework-draft>.

aspx.

SCLATER N, 2008. Large-scale open source e-learning systems at the open university UK. Research bulletin, 12: 1–13.

WATSON W R, LEE S, REIGELUTH C M, 2007. Learning management systems: an overview and roadmap of the systematic application of computers in education. Advances in computer-supported learning: 66–96.

Acknowledgements

The authors would like to acknowledge the assistance and expertise of Ms Siobhan Lenihan, Deakin University in preparation of this chapter.

国家开放大学出版社
OPEN UNIVERSITY OF CHINA PRESS

Epilogue

Summary and Prospects

The sudden outbreak of COVID-19 in early 2020 created unprecedented disruption in the field of education. Nearly all traditional universities have replaced physical classrooms with online teaching. This migration has gone so far that many people have joked that nowadays all universities are open universities using online education as their main method of delivery. In order to trace the trends in higher education in the post COVID-19 era, I initiated a dialogue among leaders from open universities around the world to discuss our future plans. Many presidents, vice-chancellors, and vice presidents responded to the call, and with the joint efforts of everyone involved, *Beyond Distance Education: Cutting-Edge Perspectives on the Future of Global Open Universities* has been published as scheduled.

Although the pandemic has interrupted regular international communication, the respondents spared no efforts to contribute to the book, and some presidents submitted their papers within just a few weeks after receiving my invitation. Many other projects have been achieved as a result of this interaction. For example, the OUC has been invited to join the Consortium for the Benchmarking Framework of Online, Open, Smart, and Technology-Enhanced Higher Education hosted by Hamdan Bin Mohammed Smart University in Dubai. Professor Asha Kanwar, President and CEO of the Commonwealth of Learning, has shared online learning resources on maintaining quality with us. Professor Ojat Darajat, Rector of Universitas Terbuka Indonesia, has also expressed his willingness to work with the OUC. The active participation of all the leaders demonstrates the importance of cooperation and openness. The papers in the book reveal the profound academic background and far-reaching insight of all the leaders, as well as their enthusiasm and hope for the future. As some of my colleagues said, it is gratifying to see that the OUC is taking the initiative in publishing a book that gathers together members of our community to discuss the future at a time when open universities as an institutional type are more than 50 years old. Many people are looking forward to an academic book like this jointly completed by

global leaders of open universities.

In *Beyond Distance Education: Cutting-Edge Perspectives on the Future of Global Open Universities*, the academic leaders answer many questions by discussing the futures of their respective institutions, including how to maintain the core competencies of open universities and how traditional universities can adapt to complicated environmental changes. Ultimately, there are many different ideas, but they all lead to the same destination. I am delighted to see an active trend of experienced open universities seeking pioneering innovation and new breakthroughs in the digital age. The rising stars among open universities continue to improve themselves through transformation and reform, while newly-established open universities are dedicated to developing into first-class global open universities with clear goals and objectives. Even traditional universities are stepping up the application of digital information technology to improve their teaching capabilities. Although they may operate in different contexts, all universities share a common mission, that is, to provide lifelong learning opportunities for learners from diverse backgrounds, to build a resilient education system for their own countries, and to strive for social justice and equal access to education. I firmly believe that open universities have not only made history over the past 50 years, but will continue to create history over the next 50 years and beyond.

This book is composed of 16 chapters contributed by 16 educational institutions from around the world, of which 13 are open universities, 2 are traditional universities, and 1 is an international association. The authors have rich theoretical knowledge and practical experience in their respective fields. This book is a crystallisation of their wisdom displayed in their different thoughts, opinions, experiences, and writing styles. In order to respect the originality and style of the works, in preparing this book we did not apply rigid requirements for uniformity. I am especially grateful to former Pro-Vice-Chancellor of the Open University UK Professor Alan Tait, an old friend of the OUC, for his contribution to the preface, and I also thank him for his support in collecting the articles. I apologise for not being able to introduce every single author of the book here due to space limitations, although I know some presidents co-authored with their colleagues. My thanks go out to all the colleagues who participated in writing the papers featured in the book. Of course, any book prepared in such a short amount of time will inevitably have

shortcomings, and I welcome any feedback or requests for clarification from readers.

It is hoped that *Beyond Distance Education: Cutting-Edge Perspectives on the Future of Global Open Universities* will be a model of international cooperation for open universities. The enlightening insights into the past and the future provided by the educational leaders have opened a window for the field of Chinese open education to conduct global exchanges. It is worth reading and thinking about. In many ways, the book represents an active attempt by the OUC to build a platform for international cooperation after the COVID-19 epidemic. I believe that with this opportunity, cooperation between open universities around the world will become more frequent and more productive, and, as a result, each university will continue to improve and take a more leading role in the field of higher education.

Jing Degang

March, 2021