

## A Narrative Case History of Distance Education Before, During, and After COVID-19 in China and Iran

### Une histoire de cas narrative de l'enseignement à distance avant, pendant et après COVID-19 en China et en Iran

*Mohsen Keshavarz, Torbat Heydariyeh University of Medical Sciences, Iran*

*Li Yuan, Beijing Normal University Zhuhai Campus, China*

#### **Abstract**

Educational hub refers to centres of excellence in higher education and research whose aims are to provide high-quality education for both national and international students to enhance the competitiveness of the country. These educational hubs provide an opportunity for knowledge exchanges and innovation in local regions through education and training. In response to the COVID-19 pandemic, rapid shifts were made towards online learning in education around the world. Although the lockdown is over, remote learning will likely play an increasingly prominent role in education. The adoption of scaled remote learning during the pandemic provided evidence of the importance of online learning. They offer an insight into global society, helping prepare students for an increasingly interconnected world by facilitating links between different regions. Educational hubs can be tied to distance learning and are successful in attracting international students when offering a combination of distance learning methods and innovative programs. This paper examines the phenomenon of educational hubs in higher education for international education through online learning with digital technology. New opportunities for online and distance learning within the definition of educational hubs are analyzed, and three online and blended learning models that reflect the development of educational hubs based on COVID-19 conditions of education are offered. In addition, the successful cases and experiences of distance learning hubs in China and Iran in recent years are described.

*Keywords:* educational hub; COVID-19; Iran; China

#### **Résumé**

Le pôle éducatif fait référence aux centres d'excellence dans l'enseignement supérieur et la recherche dont les objectifs sont de fournir une éducation de haute qualité aux étudiants nationaux et internationaux afin d'améliorer la compétitivité du pays. Les hubs offrent une opportunité d'échanges de connaissances et d'innovation dans la région par le biais de l'éducation et de la

formation. En réponse à la pandémie de COVID-19, des changements rapides ont été opérés vers l'apprentissage en ligne dans l'éducation dans le monde entier. Bien que le confinement soit terminé, l'apprentissage à distance jouera probablement un rôle de plus en plus important dans l'éducation. L'adoption de l'apprentissage à distance à grande échelle pendant la pandémie a prouvé l'importance de l'apprentissage en ligne. L'impact sera différent pour chaque élève. Les hubs peuvent également offrir un aperçu de la société mondiale, aider à préparer les étudiants à un monde de plus en plus interconnecté, ainsi qu'à faciliter les liens entre différentes régions. Dans le contexte de la COVID-19, il n'y a plus de présence sociale dans les universités. Les centres éducatifs sont liés à l'apprentissage à distance et réussissent à attirer des étudiants internationaux lorsqu'ils offrent une combinaison de méthodes d'apprentissage à distance et de programmes innovants. Cet article examine le phénomène des pôles éducatifs dans l'enseignement supérieur pour l'éducation internationale par l'apprentissage en ligne avec la technologie numérique. De nouvelles opportunités d'apprentissage en ligne et à distance dans le cadre de la définition des centres éducatifs sont analysées, et trois modèles d'apprentissage en ligne et mixtes qui reflètent le développement de centres éducatifs basés sur les conditions d'éducation COVID-19 sont proposés. En outre, les cas et expériences réussis des pôles d'apprentissage à distance en Chine et en Iran ces dernières années sont décrits.

*Mots-clés* : centre éducatif ; COVID-19 ; Iran; China

## Introduction

The COVID-19 pandemic resulted in the replacement of traditional face-to-face campus-based education with online distance education, forcing universities worldwide to rethink existing operational models. Most educational organizations adopted a blended model, combining remote/online teaching and small group face-to-face teaching on campuses as their response to the disruption caused by the pandemic (Bates, 2022). As a result, universities are facing significant financial challenges in terms of revenue loss from international students, although there may be opportunity for universities to take advantage of digital technology and online learning. In this regard, universities can explore new models and approaches to deliver on-campus programs such as online educational hubs which are more flexible, effective, and efficient in a post-pandemic world.

According to UNESCO, there were about 5.3 million international university students in 2017. The health concerns raised by COVID-19, which prevented students from leaving their home country to pursue studies abroad, may have disrupted international education on an unprecedented scale. In response, universities moved to online learning and remote teaching, closing their campuses whilst doing so.

Hodges et al. (2020) defined remote teaching as:

a temporary shift of instructional delivery to an alternate delivery model due to crisis circumstances. It involves the use of fully remote teaching solutions for instruction or education that would otherwise be delivered face-to-face or as blended or hybrid courses and that will return to that format once the crisis or emergency has abated. (pp. 8-9)

The IAU Global Survey (2020), regarding COVID-19's impact on higher education, noted that university responses worldwide to COVID-19 was to adopt contingency plans, providing a way forward for international students to participate remotely. These plans were put in place either at the institution itself, at partner institutions abroad, or both (Marinoni et al., 2020).

During the pandemic, institutions had to reorganize their teaching and learning activities on campuses following social distance regulations and explore innovative ideas to deliver their programs to support and help academics find new ways of engaging their new online learners. The existing transnational education activities, such as overseas campuses, joint and dual degree programs, double awards, and "fly-in" faculty were seriously curtailed due to the imposed travel constraints. Universities also needed to both design and deliver effective, flexible, and affordable international education programs. The approach taken by most universities was to bring about blended learning, mixing both synchronous and asynchronous learning, thus adopting a more flexible learning model (Bates, 2022).

One practical way for universities to achieve this goal was to develop online courses and, in some cases massive open online courses (MOOCs). During COVID-19 restrictions, students could participate in online courses and higher degree programs from United Kingdom universities without leaving their country and university. This resulted in universities offering an alternative for global students that was both low-cost and flexible: students could study at universities in their home countries while gaining a valuable international experience by taking online courses fully integrated into their home university's curriculum.

A global remote/online teaching and learning experiment ensued where open educational resources (OER) and MOOCs came to play important roles in supporting online teaching and learning. For example, to overcome the problem of limited time to prepare online learning content and online courses, universities in China were able to both reuse and repurpose OERs from many sources, including those available in national and international repositories as well as those published by the Ministry of Education. Teachers were given special training to help them make full use of these resources. The Chinese MOOC platform *xuetangX* has provided 1,600+ free credit-eligible courses for universities. Blended learning models, flipped learning approaches, asynchronous or synchronous learning, social learning, mobile learning, and various technology-enabled pedagogical approaches have been used and explored to provide a better-quality user experience of remote teaching and learning through online delivery.

### **New Models for International Education in Post-COVID Universities**

International university education post-COVID may continue to be influenced as students may not be able to travel abroad to study as before. New models and approaches need to be developed to reach more international students. However, there are key issues and challenges that Western universities will need to overcome if they are to succeed in providing high-quality teaching and learning online to the potentially huge Chinese market. These challenges include: (1) technical constraints that place limits on or prevent learner access to courses; (2) appropriate versions of courses - in a pedagogical sense given the different approaches to finance education; (3) the differences in language, cultural values, and educational settings; and (4) the development of business models that are sustainable long-term. A partnership model is one possible solution to help

universities in China and abroad design and deliver affordable, flexible, and effective international education through online or blended courses, as described below.

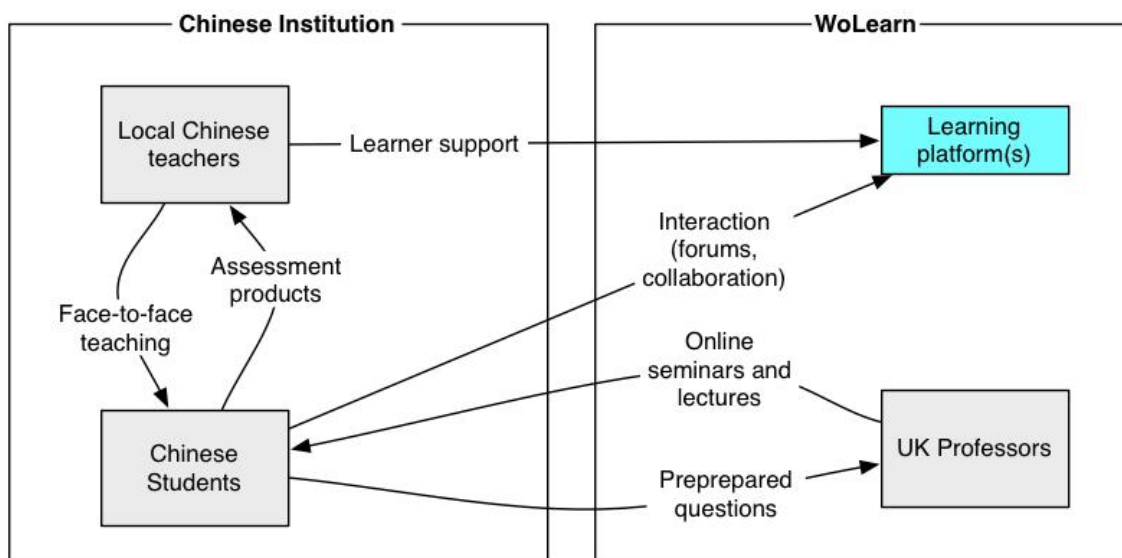
Through the promotion of openness, collaboration, and innovation in higher education, the market potential of education in China can be unlocked. This unlocking has been demonstrated by the UK and Chinese institutions jointly and collaboratively developing online and blended teaching and learning packages. A teaching and learning model has been created to capitalize on unpacking and repackaging courses. This model allows Chinese universities to buy additional services, such as online lectures and seminars, as well as access online course content provided for free. United Kingdom universities produce content which can be adapted for local use before being introduced to the Chinese education market. The website *WoLearn*<sup>1</sup> is one example of an open online learning platform, based in China, which provides a gateway to MOOCs/open courses from Western universities. WoLearn builds relationships with UK partners by identifying universities that have not only produced OERs, open online courses, and MOOCs but also wish to grow their international business. It seems inevitable that this approach will lead to partnerships between UK and Chinese universities resulting in stronger institutional collaboration through the integration and delivery of identified courses.

### The Partnership Model

The approach called for a clear separation of the respective organizations' responsibilities. The Chinese institution carried out the bulk of the work, to reduce expenses and keep costs manageable, given that UK institutions charge significantly more for work. Also, WoLearn, the startup company, performed the organizational and coordinating role in the UK, along with the provision of learning platforms and pedagogic design.

**Figure 1**

*Partner Organizational Relationships*



<sup>1</sup>[www.wolearn.org](http://www.wolearn.org)

Learner support for this course was provided by both academics and non-academics. Local teachers in the classroom provided first-line support and online forums were also available for learners to discuss issues. Course administrators from WoLearn provided non-academic support; these tasks included seminar coordination along with overall course implementation.

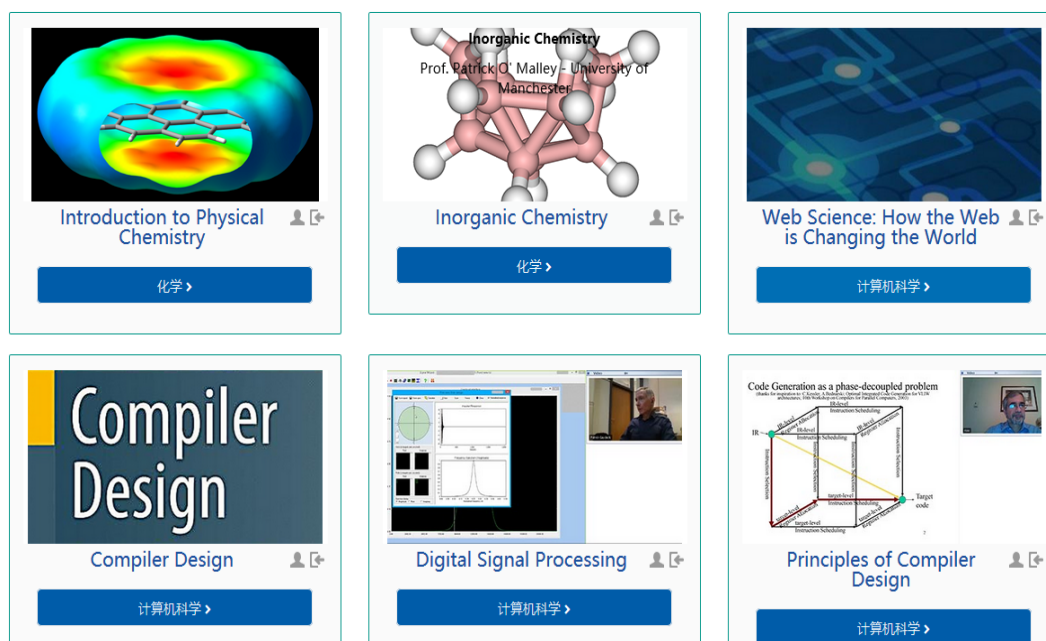
To be successful, the partnership model must address problems of a technical, pedagogical, and financial nature, all of which can arise when running blended courses internationally. It is recognized that a certain level of financial investment is required. This can be kept at a sustainable level in reference to the cost-savings and benefits. The advantage for UK universities was in gaining fee-paying students and the benefit for Chinese universities was in offering their students an international education experience with a modest financial investment.

## The Open Course Platform

To enable non-UK-based universities and academics to upload online courses and directly manage online teaching and learning with registered students, a China-based bilingual (English and Chinese) Moodle platform was built. This third-party platform also provided advice on how to access the Chinese alternatives to Western social media sites, e.g., Google, YouTube, Twitter, and Facebook.

**Figure 2**

*A China-Based Bilingual (English and Chinese) Learning Platform*



Since 2015, and prior to the COVID-19 pandemic, more than 20 courses in a variety of subjects, including educational technology, computer science, and physical science, have been successfully implemented through partnerships. To deliver these online courses, collaborations were forged between Chinese universities and academics from the University of Edinburgh, the University of Glasgow, the University of Manchester, and the University of Southampton. More than 10,000 students from three Chinese Universities: Hua Zhong University of Science and Technology, Beijing Normal University, and Central China Normal University were able to enroll in these courses, supported online by UK academics. The Chinese learners benefitted greatly from

this international collaboration through access to the open courses (or MOOCs) developed by UK academics on the WoLearn platform.

### The Collaborative Teaching and Blended Learning Approach

The cooperative teaching and blended learning approach was developed to support academics in China and the UK to work collaboratively on course design and delivery in a blended learning course. In practice, online content, such as OERs/MOOCs, is created and uploaded by academics from UK universities and integrated in face-to-face teaching by Chinese teachers. The academics in the Chinese and UK universities co-deliver the courses via online and face-to-face engagement. Here the UK teacher is responsible for online activities and the Chinese teacher organizes students' offline learning. In the blended learning courses, students' learning includes: (1) online resources provided by the UK academics on the WoLearn platform; (2) online seminars hosted by the UK academics on online conference systems; and (3) face-to-face teaching delivered by Chinese teachers.

In this cooperative teaching and blended learning approach, Chinese teachers can incorporate high-quality online courses from UK universities and online interactive sessions with UK academics into their face-to-face teaching, which can improve and enrich the blended learning content and context. During the course, students are guided by their teachers to study online content at their own pace anytime, anywhere, and to work in groups to prepare questions and presentations for the online interactive sessions with UK academics. In the online sessions, UK academics are advised to adopt a flipped learning approach and provide an opportunity for students to ask questions and discuss ideas with teachers and peers.

**Figure 3**

*Blended Learning with Overseas Teachers at Beijing Normal University*

The decomposition of oxalic acid  $(\text{COOH})_2 \rightarrow \text{CO}_2(\text{g}) + \text{HCOOH}$  has a rate equation  $v = k[(\text{COOH})_2]$  and constant of  $3.36 \times 10^{-4} \text{ s}^{-1}$ . If concentration of oxalic acid is  $0.04 \text{ M}$ , what is the concentration of  $\text{CO}_2$  after 10 minutes?

a)  $0.04 \text{ M}$   
 b)  $0.16 \text{ M}$   
 c)  $0.19 \text{ M}$   
 d) There is insufficient information

Answer	Percentage
Answer A	6%
Answer B	88%
Answer C	0%
Answer D	6%

*Note.* Students in a classroom engage with teachers online.

During the pandemic, the collaborative blended learning courses ran during campus closures and both academics and students became very familiar with the blended learning approach, technologies, and online engagement through various social media and tools.

### **Virtual Education Innovations in Iran: A Successful Experience of Medical Education**

As mentioned previously, COVID-19 forced universities around the world to find solutions for the sudden closure of campuses. Many countries banned international travelers to prevent the spread of the coronavirus. According to UNESCO, at the beginning of April 2020 the higher education system was shut down in more than 194 countries and students dropped out of school and universities and were quarantined in their homes (UNESCO, 2020). The arrival of COVID-19 and the closure of universities became a turning point in the development of e-learning in the world. Universities had to use online and distance learning to continue their educational activities. Before the pandemic, institutions of higher education in Iran delivered face-to-face instruction in teaching and learning; online learning was not widely available. The developmental policies of the Ministry of Health in Iran provided a way for the improvement of virtual medical education, thus virtual education grew significantly. In this section, we will briefly describe the valuable experiences of Torbat Heydariyeh University of Medical Sciences in line with innovative virtual activities through cooperation with the national ARMAN MOOC. ARMAN is a Farsi abbreviation for New and Massive National Computerized Education.

ARMAN<sup>2</sup> is the only national MOOC in Iran in the field of medical sciences. The ARMAN MOOCs include a variety of different subjects in the field of medical sciences such as statistics and research methods and epidemiology, medical education, clinical medicine, nutrition, nursing and midwifery, paramedical, dentistry, rehabilitation, pharmacology, psychology, basic medical sciences, and management sciences (Virtual University of Medical Sciences, 2018, 2019).

### **Torbat Heydariyeh University of Medical Sciences**

Torbat Heydariyeh University of Medical Sciences is located in the Khorasan Razavi province in Northeast Iran. It is a public university with several specialized hospitals and health centres and offers degrees at undergraduate, graduate, and doctoral levels in areas of medical sciences, as well as various academic study programs related to medical sciences. The University's history of providing health services dates back 50 years and began its first activities in the fight against malaria disease in the form of health centres. Its academic formation as a college/university began back in the early 1990s. Gradually, the university progressed and is currently training students in various fields of medical sciences with more than 100 faculty members and more than 1,000 students.

### **History of e-Learning in the Ministry of Health of Iran**

In 2015, the Ministry of Health of Iran presented a reformation plan for medical education systems. This package included programs that cover all aspects of medical education. Every plan had specific policies, strategies, and plans. The program was compiled of 11 development packages and a monitoring program that included a total of 46 different axes for designing, implementing,

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<sup>2</sup> <https://arman.smums.ac.ir/>

and monitoring the transformation program in medical science education (Secretariat of the Headquarters for Transformation in Education, n.d).

One of the macro policies within the packages of the transformation plan was the development of virtual education in universities of medical sciences. The goals of this package were:

- Upgrade of information technology substructure.
- Application of information technology in educational processes.
- Use new educational technologies and equipment such as simulators.
- Utilization of distance education in the field of higher health education.

Following the implementation of this plan in 2015, the development of virtual education in medical sciences has been run by Iranian universities of medical sciences. In Iran a paradigm shift resulted in medical education where e-learning is one of the most important parts (Keshavarz & Karimi, 2021).

Another fundamental outcome of this paradigm shift was the establishment of the Virtual University of Medical Sciences (VUMS)<sup>3</sup> at The Ministry of Health and Medical Education of Iran. In 2017, according to policies of the development and strengthening of virtual education and the necessity of planning and directing virtual colleges and universities of medical sciences, the VUMS was established and was directly under the supervision of the Deputy of Education of the Ministry of Health (Virtual University of Medical Sciences, 2017).

In March 2020, with the arrival of COVID, the Ministry of Health of Iran announced the closure of universities, higher educational institutions, and schools in several cities and provinces. The Deputy of Education, Ministry of Health ordered academic organizations to launch learning management systems (LMS). All universities of medical sciences in Iran held their courses online through the national LMS named Navid, which was designed by the VUMS (Keshavarz & Ghoneim, 2021).

The history of e-learning activities at Torbat Heydariyeh University of Medical Sciences goes back to 2014 when the LMS was launched to implement blended courses. At that time, university professors offered very few blended courses through this system. With the creation of a transformation plan in education and e-learning development programs in the Ministry of Health, and the arrival of COVID, the growth of e-learning activities in this university expanded.

### **Planning to Create a Virtual Education Centre**

The University's distance learning designers and planners developed virtual education as traditional teaching methods had to change and new teaching patterns replaced traditional ones. As students of today are digital-centric, professors sought teaching patterns to meet student learning styles. The need to change the structure of medical education and to familiarize professors with new educational technologies, such as MOOCs and the electronic content, were among the most important priorities for the University. The establishment of the VUMS and the creation of online educational hubs in the Ministry of Health marked another turning point leading to the

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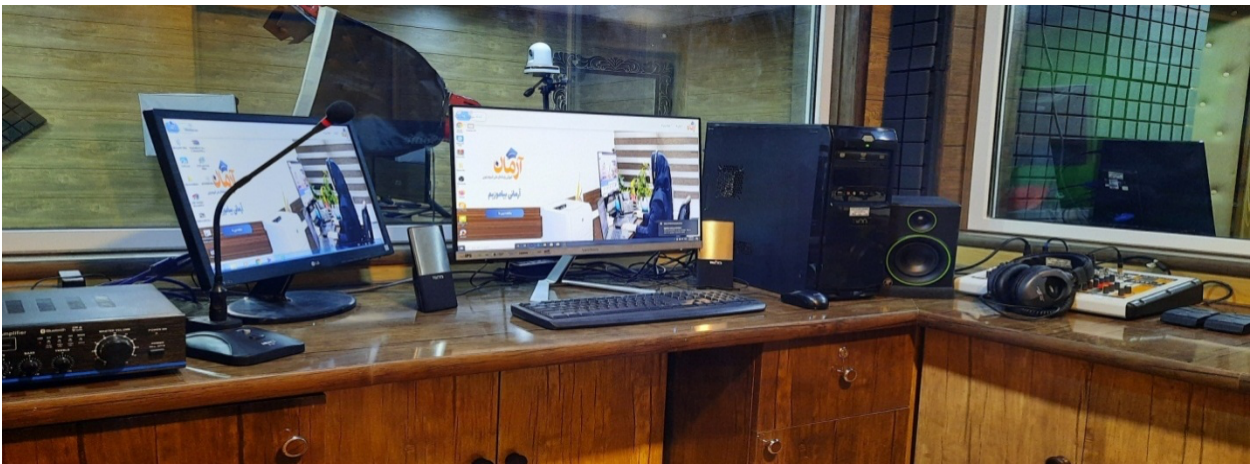
<sup>3</sup> Later renamed to Smart University of Medical Sciences (SMUMS). <https://smums.ac.ir>



establishment of a virtual education centre in the University under national and international standards. The Virtual Education Centre (VEC) of Torbat Heydariyeh University of Medical Sciences was launched in 2016 to deliver medical education curriculum using existing infrastructure and equipment and was equipped with different facilities including an audio/video recording studio, online testing centre, webinar room, and a department of educational new technology. The VEC is an acoustic room with modern audio and video equipment that fully complies with the desired standards (see Figures 4, 5, & 6) (Virtual Education Center, 2018).

**Figure 4**

*The Voice and Image Recording Studio*



**Figure 5**

*The Voice and Image Recording Studio*



**Figure 6**

*The Voice and Image Recording Studio*



In general, three main VEC strategies were adopted to develop e-learning activities:

- Develop physical infrastructure and equipment necessary for the allocation of a standard virtual education centre.
- Attract faculty members and specialists in the area of virtual education.
- Strengthen university professors and departments to develop online learning skills.
- Empower faculty members.

In line with the goals of developing virtual education programs, participation in national MOOCs, and producing electronic content, the VEC planned an empowerment program to acquaint university professors with the concept of MOOCs and encourage the production of electronic content. The program included holding several specialized workshops and providing specific advice in the field of virtual education and e-learning with new educational technologies. One of the guidelines used by the VEC was the *Teaching in the Digital Age: Guidelines for Designing Teaching and Learning* by Dr. Tony Bates (2019), a well-known book in the field of educational technology and one of the top books in the world in the field of online teaching and learning. In the presentation of scientific workshops, Chapter 5 was selected to acquaint the faculty members with the phenomenon of MOOCs (Keshavarz & Ghoneim, 2021). In this chapter, Bates explains the concept of MOOCs, their features, and their components. The authors distinguish between two types of MOOCs, xMOOC and cMOOC. xMOOC, or extended MOOC, has specific and organized assignments, formal evaluation, and a certificate (Bates, 2019). Dr. Tony Bates also collaborated with the VEC in the implementation of the first workshop.

### **Results and Effects of Holding Workshops**

Holding specialized workshops in the field of MOOCs and new educational technologies empowered the University faculty members and changed their attitudes toward virtual education. Faculty members gradually became acquainted with the concept of MOOCs and the culture of applying new educational technologies developed at the University. Of course, several workshops outside the Torbat Heydariyeh University of Medical Sciences and at the level of the Ninth region macro were held at Mashhad University of Medical Sciences. Professors from other universities also participated in the workshops. Gradually, faculty members became acquainted with and

interested in the concept of virtual education and the production of electronic content. In addition to holding specialized workshops, VEC provided specialized advice to faculty members. Holding workshops and counseling sessions encouraged university professors to produce electronic content and use blended methods such as the flipped classroom. The specialized team at VEC started producing electronic content and were able to produce 42 electronic content deliverables according to the technical standards of the VUMS after two years of continuous work (Virtual University of Medical Sciences, 2018). Currently, the University, in partnership with ARMAN MOOCs, is planning to produce more electronic content.

### **Lessons Learned**

Torbat Heydariyeh University of Medical Sciences has become an e-learning hub in Eastern Iran and strives to be a distinguished representative in the field of online learning at home and abroad with a set of predetermined goals. During COVID-19 and through establishing a VEC, an example of an educational hub, Torbat Heydariyeh University of Medical Sciences held its theory classes via an LMS and followed its training in the field of medical sciences without any problems. Now outside of Iran, especially in Canada and Austria, many outstanding distance education researchers such as Dr. Tony Bates and Dr. Stephen Downes are familiar with the research activities and faculty members of the VEC (Bates, 2021; Downes, 2022; Keshavarz & Ghoneim, 2021). Recently, the VEC gave an interview to the Institute of the Leaders and Legends of Online Learning, managed by Mark Nicholas, and described the activities of the VEC in detail (Leaders and Legends of Online Learning, 2021). In the end, the important points and achievements of the VEC can be summarized as follows:

- Development of an e-learning science group in the east of the country which is currently recruiting graduate students in the field of e-learning in medical sciences.
- Establishment of the standards of a virtual education centre.
- Licensed for a Virtual Education Centre from the Ministry of Health.
- Participation in national projects including ARMAN MOOC.
- Creating a culture in the university to change teaching patterns.
- Increasing motivation of faculty members to use virtual methods.
- Establishing international connections with leading professors of online learning abroad.
- Conducting joint international research with countries such as USA, Austria, and Canada and rising on the international stage, especially at the level of publishing articles.

### **Conclusion**

It is a priority that universities rethink their online learning methods and the structure of their international education in the post-pandemic world (Yuan & Powell, 2013). The pandemic forced educational institutions worldwide to search for innovative solutions for online learning and remote teaching in a relatively short period. Universities worldwide are starting to develop flexible

and innovative teaching and learning models to provide solutions for international students. However, the generally slow pace of change in academic institutions globally continues to drag on technology adoption with content-based approaches continuing to dominate classroom teaching and learning practices (Keshavarz & Ghoneim, 2021) – despite the proof-of-concept successes of blended learning model such as Cetis (Center Educational & Interoperability Standards) or Wolearn or VEC.

For international education to move effectively to a blended model involving both online and physical campuses and flexible learning schedules, it is not solely teaching approaches that need to be considered and met but also financial, technical, and pedagogical solutions which provide high-quality, flexible, and sustainable learning solutions. E-learning encourages and supports active learning regardless of time and place using certain principles and tools such as web-based communication, participation, knowledge transfer, and multimedia. The changes are considered key innovations in education (Mirmoghtadaie et al., 2023).

There is no question that the internationalization of education will continue, but institutions will need different approaches and models to reach and engage international students through a dramatic change of circumstances. Post-pandemic collaboration between universities is required more than ever before to provide more accessible and flexible international education. As has been described in the two examples in this paper in China and Iran, it is possible to create new partnerships between universities in different countries to share content and resources and connect classrooms and curricula in new and creative ways. In effective partnerships, institutions have the potential to achieve their international education agenda and provide better support to “global” students through online educational hubs across the country.

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## Authors

**Mohsen Keshavarz** is a faculty member in the Department of E-Learning in Medical Sciences, School of Paramedical Sciences at the Torbat Heydariyeh University of Medical Sciences in Torbat Heydariyeh, Iran and holds a Ph.D. in virtual education planning. He is an energetic advocate of distance learning in his home country of Iran, having translated Tony Bates's book *Teaching in a Digital Age* into Persian in addition to several other projects, some with international collaborators. Mohsen has recently been introduced as an international figure in the field of online learning by the site of Leaders and Legends of Online Learning. *Email:* keshavarzm1@thums.ac.ir

**Li Yuan** is a professor at the Future Education Institute, Beijing Normal University Zhuhai Campus in China and holds a Ph.D. in ICT in Education from the School of Education, Queen's University of Belfast. Most recently, Li works for the Centre for Educational Technology & Interperability Standards – Cetus - a national innovation support center at JISC, supporting technology innovations in institutions throughout the United Kingdom. Over the last decade, she has also worked on several large European Union funded technology-enhanced learning projects and has advised on the UK Open Education Resources Programme and several JISC e-learning programs. In 2014, she founded WoLearn ([www.wolearn.org](http://www.wolearn.org)), an open online learning platform based in China, to promote openness, collaboration, and innovation in teaching and learning among academics and universities in China and Western countries, and to explore new pathways and models for international education. *Email:* l.yuan@bnu.edu.cn



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