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International Centre
for Higher Education Innovation
under the auspices of UNESCO
联合国教科文组织高等教育创新中心

The Real Birth Year of MOOCs,
A New Perspective for Higher Education

Review of Global MOOC Conference Sub-Forum 3

Disclaimer

From December 9th to 11th, 2020, the Global MOOC Conference was held at Tsinghua University. The conference was co-hosted by Tsinghua University and the UNESCO Institute for Information Technologies in Education (UNESCO IITE), and is the first global conference with the theme of MOOC since the rise of MOOC. With the theme "Learning Revolution and Higher Education Transformation", the conference aims to build consensus, facilitate innovation, share experience, and showcase new technologies to promote the development of MOOCs and online education.

Global MOOC Conference sub-forum 3 was chaired and co-organized by UNESCO-ICHEI (Shenzhen, China) and Southern University of Science and Technology (SUSTech). This report reviews the keynote speeches and case studies shared by participants in sub-forum 3, summarizes MOOC-related practices and online education strategies of different countries during the pandemic, and provides suggestions for the sharing of MOOC resources and global cooperation in higher education.

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We hereby thank Tsinghua University, the UNESCO Institute for Information Technologies in Education (UNESCO IITE), Southern University of Science and Technology (SUSTech), other international organizations and partner higher education institutions for their support in writing this report!

The International Centre for Higher Education Innovation under the auspices of UNESCO (Shenzhen, China) was established on June 8th, 2016, and is the tenth Education Sector UNESCO Category 2 centre in the world. On November 13th, 2015, the 38th General Conference of UNESCO approved the establishment of UNESCO-ICHEI in Shenzhen, China, which is the first Category 2 centre for higher education in China.

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Introduction

In 2015, the United Nations announced the ambitious Sustainable Development Goals (SDGs), including SDG4: ensure inclusive and equitable quality education and promote lifelong learning opportunities for all by 2030. In addition, in Education 2030 Framework for Action (UNESCO, 2015), UNESCO proposed that MOOCs should be promoted as a powerful strategy to expand access to education and improve the quality of learning. Thanks to initiatives and efforts made by individuals, governments and global stakeholders, MOOCs have become more prevalent in the Global South (including most countries and regions in Asia-Pacific, the Middle East and Africa) since the release of the Incheon Declaration (UNESCO, 2015).

The term "MOOC", or massive open online courses, refers to open access, global, free, video-based instructional content, videos, problem sets, and forums released through an online platform to high volume participants. MOOCs represent one of the most prominent trends in higher education in recent years, serving a wide range of users seeking educational resources and opportunities. In 2020, MOOCs attracted 180 million learners outside China. As MOOCs become popular worldwide, the number of homegrown MOOCs and MOOC learners in China has also surged, with 24 platforms offering over 52,000 courses, all in the Chinese language. However, shared challenges in completion rates, accreditation, accessibility, and financial sustainability still hinder many developing countries from launching their own MOOC resources and systems.

From December 9th to 11th, 2020, the first global conference on MOOCs, the Global MOOC Conference, was held at Tsinghua University. With the theme "Learning Revolution and Higher Education Transformation", the conference aims to build consensus, facilitate innovation, share experience, and showcase new technologies to promote the development of MOOCs and online education.

The event includes a main conference and four sub-forums held in an online-offline hybrid format. Stefania Giannini, Assistant Director-General for Education of UNESCO, QIU Yong, president of Tsinghua University, and Andreas Schleicher, Director for Education and Skills of OECD, made opening addresses. Over 200 experts and representatives from foreign embassies in China, international organization, government departments, universities and online education platforms attended the main conference in person. The conference launched the Global MOOC Alliance and released the 2020 Beijing Declaration of MOOC Development. CHEN Bao Sheng, China's Minister of Education, made a keynote speech on China's practice, innovation and exploration in MOOCs and online education.

Tsinghua University and UNESCO IITE jointly hosted the conference. Sub-forum 3 is chaired and co-organized by UNESCO-ICHEI (Shenzhen, China) and Southern University of Science and Technology (SUSTech). Under the theme of "Resource Sharing for MOOCs and Global Higher Education Cooperation", the sub-forum included discussions on the approaches, methods, case studies and practical experience related to MOOC's application worldwide, especially in developing countries in Asia and Africa. During the forum, participants also discussed issues on using MOOCs to promote global cooperation in higher education, sharing high-quality MOOC resources to achieve equity in higher education, and achieving SDG4.

This report covers a review of keynote speeches and case studies shared by participants in sub-forum 3, a summary of MOOC-related practices and online education strategies of different countries during the pandemic, and suggestions for the sharing of MOOC resources and global cooperation in higher education.

Content

1. The MOOC Evolution: From Commercial Goods to a Public Good

Mr. Fengchun MIAO
Chief of Unit for Technology and Artificial Intelligence in Education of UNESCO

1.1 2020 - the Birth Year of Real MOOCs

Emerged in the early 20th century, MOOCs have become more mature over the years in terms of business model and content. During the COVID-19 pandemic, most teaching and learning activities were shifted online, which catalysed a significant change in MOOCs. Therefore, 2020 is regarded as the birth year of real MOOCs. The current MOOC landscape features the following hallmarks.

1) Increased government involvement and investment

After the outbreak of COVID-19, the world witnessed a sharp rise in government-led MOOCs. Governments helped expand MOOCs from higher education to K-12 education and offered more career-related MOOCs in different languages. The major provider of MOOCs shifted from commercial companies to government education departments.

2) Increased linguistic diversity

Since MOOCs originated in the West, English used to be the dominant language of courses. However, with the advancement of translation technologies and the participation of more non-English speaking countries, more MOOCs are available in non-English languages.

3) A shift in operation model: from profit-oriented business model to government-led welfare and certification models

In MOOCs offered by commercial providers, only introductory lessons are free of charge. Advanced courses often come with a fee. In other words, this is a poverty deprivation model through which commercial providers offer value-added services and make a profit. With greater government involvement, nowadays, most MOOCs are provided free of charge. This is the welfare model through which governments improve the distribution of educational resources by offering free MOOCs. But governments don't always have the expertise and time to provide all MOOCs. Therefore, the certification model is adopted where governments certify MOOCs offered by non-government providers.

1.2 MOOC as a Public Good: Deep Challenges

Despite efforts made by governments to turn MOOCs into a public good, three profound challenges remain.

1) Inadequate user profiling

To become a truly inclusive online education platform, MOOCs need to cover another 100 million users. However, MOOC providers often do not have enough statistics on the educational background, internet access, and hardware access of potential users.

2) Digital drop-out and digital illiteracy

Digital drop-out and digital illiteracy come in various kinds. For example, there may be students who turn off their cameras during online courses. In such cases, teachers have no way to find out whether the students are following the lessons or not. Thus, teachers need to think about how to turn digital tools into educational tools to prevent students from dropping out digitally and becoming digitally illiterate.

- Digital dropouts refer to students who cannot finish learning or cannot catch up with courses during remote learning due to various reasons, including the lack of student-teacher interaction, unfavourable environment, or the lack of proper feedback.
- Digital illiteracy refers to people who are not capable of using technologies to access, create and exchange information, solve problems, or enhance learning. A student's capability to utilize technology is influenced by his or her economic and family background and tech-related learning capabilities.
- Research shows that with the rise of online education, digital dropouts and digital illiteracy have become major challenges in higher education. They undermine students' self-esteem, academic performance, and career prospect while also creating university management problems.

3) Digital divide

87% of the population in high-income countries are internet users, while the number in low-income countries is only 19%. Therefore, not all countries and regions are equipped for online education.

2. Establish a Multilateral Cooperation Mechanism to Facilitate the Application and Sharing of MOOC Resources

Prof. Ming LI
Director of International Centre for Higher Education Innovation under the auspices of UNESCO

2.1 Serve Those Who Need Education the Most to Expand Access to Higher Education.

Accessibility was already a major challenge for global education before the pandemic. In 2016, the gross enrolment rate of higher education in Sub-Saharan Africa was only 8%. And the gender disparity rates in higher education in South Asia ranged from 9% to 43%. Hundreds of millions of people still lack access to educational resources. In lower-middle-income and low-income countries, government budgets on higher education tend to be limited. The lack of funding and human resources often results in a lack of high-quality local MOOCs. Therefore, these countries rely heavily on existing global digital education resources.

In fact, MOOCs have great potential and value in developing countries where the demand is large. However, only 35% of learners on international mainstream MOOC platforms are from developing countries, and most young people from marginalized groups cannot complete their learning. This phenomenon points to a huge gap between the supply and demand of educational resources in low-and middle-income countries. Therefore, MOOC providers should focus more on the needs of people from those countries by designing more targeted courses.

2.2 Develop Relevant, Localized, and Demand-Oriented MOOCs

Most MOOCs available now are provided by institutions and teachers from developed countries and regions. Many MOOCs offered by renowned Western universities are supply-based courses, a digital version of existing courses offered by professors on campus that may not be well-suited to the needs of the wider public. In particular, these Western courses do not include the background knowledge, application scenarios and case studies relevant to learners from developing countries. Compared to MOOCs offered by developed countries, high-quality MOOCs developed by China and other developing countries prove more relevant. However, most of those courses are offered in local languages, making it difficult to benefit people from other countries. Even with courses offered in the international language, international MOOC platforms often do not have proper translation technology in place to translate the courses into the learner's local language. In addition, linguistic translation alone is not enough. More work needs to be done to localize the content.

In the meantime, according to statistics, although 40% of users on mainstream MOOC platforms are teachers, the number of courses on teacher's professional development remains low. During the pandemic, several mainstream platforms rolled out COVID-19 special programs. However, few courses have been developed to help teachers with online teaching.

In order to increase profit, a growing number of mainstream MOOC platforms started to provide micro-credentials and small private online courses (SPOC), which cater to the needs of universities and users in high-income countries. This trend means that users from developing countries are still excluded. In conclusion, technological tools and profit-oriented models cannot help solve the challenges we face in education. The only way to ensure the sustainability of MOOCs is to take into account learners' needs.
Therefore, to promote the globalization of MOOCs, providers should develop courses that are truly relevant by focusing on learners' needs and localization.

2.3 Boost Multilateral Cooperation on Co-Development and Resource Sharing to Ensure a Sustainable Supply

Co-development and resource sharing require an upgrade of policies, mechanisms, and quality standards and multilateral cooperation among universities, MOOC platforms, IT providers, government education departments, and international organizations.

During the pandemic, UNESCO-ICHEI (Shenzhen, China) launched the International Institute of Online Education (IIOE), an open platform for online education. IIOE aims to serve teachers from developing countries by offering open, free, high-quality courses on ICT competency and skills. It also runs a teacher accreditation program in partnership with universities in Asia and Africa. Over 2,000 university faculty members have attended IIOE courses, with a completion rate of 47%. Multilateral cooperation with various organizations across different fields enables IIOE to offer MOOCs sustainably, creating a strong foundation for MOOC development.

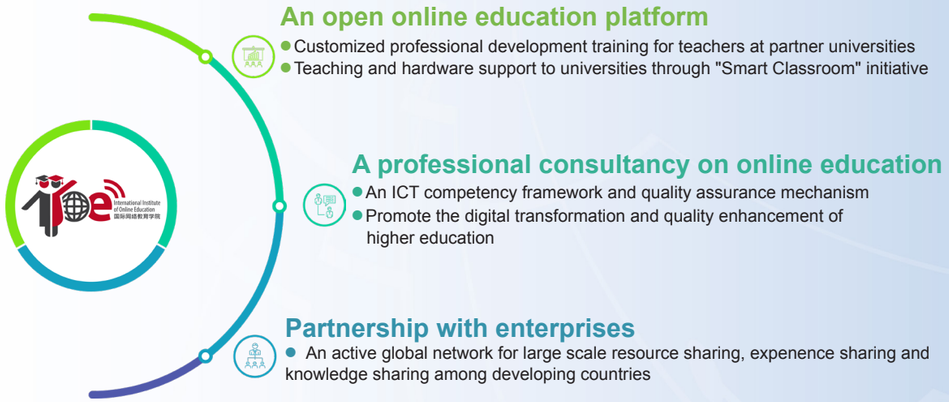
3. Case Studies on MOOCs in Asia and Africa

Nine guests from Asia and Africa share the practice and experience of MOOC application in their countries or institutions. University of Philippines - Open University, Hamdan Bin Mohammed Smart University, Virtual University of Pakistan, and Virtual University of Côte d'Ivoire have developed their own platforms to offer online courses at a national level. Malaysia MOOCs is a government-led online education platform with the participation of all Malaysian universities. IIOE and the Innovative Talents for Silk Road Development with MOOC of Xi'an Jiaotong University are multilateral global online education platforms.

Case Study 1: IIOE, a Platform of High-Quality Educational Resources for Asian and African Universities

Prof. Cher Ping LIM
Chief Expert of IIOE, International Centre for Higher Education Innovation under the auspices of UNESCO; Chair Professor at the Education University of Hong Kong

Launched in April 2020, the International Institute of Online Education (IIOE, www.iioe.org) is co-created by UNESCO and UNESCO-ICHEI (Shenzhen, China) with partner HEIs, enterprises, and international organizations to accelerate the achievement of SDG4. As an open online education platform, IIOE offers customized professional development training for teachers at partner universities and provide both teaching and hardware support to universities through its Smart Classroom programme. As a professional consultancy in online education, IIOE promotes the digital transformation and quality enhancement of higher education through its ICT Competency Framework and quality assurance mechanism. In addition, by connecting with global partners, IIOE has established an active global network for large-scale resource sharing, experience sharing and knowledge sharing among developing countries.



IIOE's mission is to meet the growing need for higher education digital transformation and quality enhancement in different countries. By working with higher education institutes and enterprises, IIOE helps boost the ICT-related competency of higher education professionals and administrative staff. By promoting online and blended learning, ICT-enabled management and administration, and ICT-related competency, IIOE catalyses innovation in governance, management, and educational environment to facilitate the digital transformation of higher education.

IIOE offers the following five suggestions on solving current challenges of MOOCs:

- **A demand-driven approach.** Before developing courses, IIOE first analysed the needs and readiness of partner universities and designed an ICT Competency Framework for education professionals accordingly.

- **Localization and customization.** Localization at IIOE involves not only the language but also learning scenarios. Its co-development and implementation framework allows partner universities to participate in-depth in course development.

- **Ensuring completion rates.** IIOE monitors and manages individual professional learning with learning support and learning portfolios. It also offers certification together with partner universities as an incentive to boost completion rates.

- **Pooling resources.** IIOE has tapped into the expertise and resources of all stakeholders and developed a unique curriculum.

- **Quality assurance framework, mechanism, and tools.** With a focus on quality assurance, IIOE has created an enabling environment for online higher education. In the meantime, it also offers hardware and software support to partner universities through public-private partnership.

Case Study 2: Online Courses Co-Designed by UCL and the University of Lebanon: Supporting Vulnerable Groups with MOOCs

Diana Laurillard
at Learning with Digital Technologies of UCL Knowledge Lab

Since the outbreak of COVID-19, teachers around the world have responded rapidly by moving their teaching and learning online. This shows that online teaching is an important means of delivering equitable and inclusive education. However, teachers now need instant professional development on how to create high-quality online teaching and learning. Therefore, we need to find a way to offer TPD (teacher professional development) on online teaching on a massive scale.

Project 1: Co-Designing Online Education Platform and Courses

UCL and the University of Lebanon co-designed FutureLearn (English-based) and Edraak (Arabic-based) to offer support for developing online learning for teachers. The main feature of the platforms is transformative learning, i.e. developing online education in the most challenging environments. The two platforms cover a wide range of courses with over 20,000 participants.

The platforms were developed and run in a five-step approach:

- **Engage:** working with local academics,NGOs,and ministries of education to design courses;
- **Develop:** developing MOOCs with local experts;
- **Extend:** running MOOCs with NGOs and master teachers;
- **Embed:** embedding MOOC resources in traditional classrooms to achieve blended learning;
- **Sustain:** inviting alumni to act as mentors in the next course to ensure project sustainability.

Project 2: Co-Designing Courses on Online Teaching

The team developed How to Teach Online, a three-week course on the pedagogy of online teaching, within two weeks and launched the course on the 23rd of March. The course is free to everyone. In the first round of application, over 85,000 users registered for the course and 23,000 users registered in the second round. Forty percent of its active users are from low-income countries.

Summary: Experience on Using MOOCs to Support Higher Education

- Need for improved legislation. Countries should realize the potential of MOOCs in supporting higher education and design supportive regulations and policies.
- Reducing reliance on infrastructure. In the project for refugees, it's clear that smartphones have become part of people's everyday life. With smartphones, MOOCs can work even in places with poor infrastructure. Therefore, good infrastructure is not the prerequisite for MOOCs.

Case Study 3: SUSTech MOOC Center: Providing High-Quality STEM Courses


Mr. Dongxiao ZHANG
Vice-President and Provost of Southern University of Science and Technology

The MOOC Center of SUSTech was established in 2018 and put into operation in December 2019. It has already developed 24 STEM-centered MOOCs. In response to the pandemic, the center launched 5 new courses, including the First Lesson on Cloud and Mental Health during the COVID-19 Pandemic. From 2017 to 2019, SUSTech undertook the teaching tasks for the module of "MOOC Courses Development and Blended Learning Application" during the foreign aid training seminars held by China's Ministry of Commerce.

In this module, participants from 9 Asian and European countries recorded videos in SUSTech's MOOC Center to introduce the development of higher education in their countries. "Introduction to Research Methods", a course developed by the center, won the "Provincial First-Class Online Courses" award.

Conclusion:

- MOOCs can play an active role in promoting the transformation and innovation of higher education teaching and building the foundation for blended learning;
- The quality of MOOC courses represents the soft power of university teaching, which is conducive to improving the popularity and influence of universities;
- Teachers are the core strengths of MOOCs. Therefore, teachers' training is key to the building of MOOCs.

Case Study 4: Xi'an Jiaotong University: Jointly Cultivating Innovative Talents for Silk Road Development with MOOC


Prof. Qinghua ZHENG
Vice President of Xi'an Jiaotong University

Sponsored by UNESCO-IKCEST (International Knowledge Centre for Engineering Sciences and Technology), Xi'an Jiaotong University, in partnership with University Alliance of Silk Road and MOOC China Association, launched the Innovative Talents for Silk Road Development with MOOC program.

The university developed the Silk Road Engineering Science and Service System based on MOOC platforms which has already provided a large number of courses for countries along the Belt and Road. The system also supports offline education programs and blended-learning practices. In addition, Xi'an Jiaotong University is developing 6 databases involving 3 million items about BRI (Belt and Road Initiative) and the industries and environment of countries along the route.

Case Study 5: University of Philippines - Open University: Using MOOCs to Expand Access to Higher Education and Reduce the Skill Gap


Prof. Melinda dP. Bandalaria
Chancellor of University of Philippines - Open University

Established in 1995, the University of Philippines - Open University is one of the constituent units of the University of Philippines, the only national university in the country. It became fully online in 2007 and started offering MOOCs in 2013. It is also the first university in the Philippines to implement MOOCs. The university is positioned to help the Ministry of Education promote technology-oriented training. Therefore, apart from generic courses, it also develops targeted courses on the skills needed by industries. In 2016, the university started offering MOOC Certification Programs. In total, it provides 32 degree program, 89 MOOCs, and 11 certification programs.

Imperatives for developing MOOCs in the Philippines:

- **Providing learning opportunities for out-of-school youth:** according to statistics, there are 3.6 million out-of-school youths in the Philippines, among whom 83.1% are 16-24 years old. Eighty-six percent of students can not finish college. MOOCs can offer these students learning opportunities.
- **Bridging the skill gap:** the total number of overseas Filipino workers is estimated at 2.2 million. MOOC platforms can offer them skills training to enhance their employability after they return to the Philippines. According to the US Bureau of Labor Statistics, as the world enters the fourth industrial revolution, 7 out of 10 people face uncertainties in their careers and the average number of jobs a person will take in his or her lifetime is 12. Therefore, people need to continue upskilling or reskilling in order to find better jobs.
- **Adapting to the gig economy:** MOOCs offer fragmented learning, which helps people adapt to the gig economy.
- **Continuing professional development for teachers, offering quality content for quality education, and contributing to the achievement of SDGs.**

Three Models:

- **MOOCs as MOOCs:** offer training opportunities for universities administrators, teachers, and other staff during the COVID-19 pandemic. A case in point is offering rapid and mass training for teachers on how to teach online;
- **MOOCs as OERs (Open Education Resources):** provide credit recognition and credit courses;
- **Regional collaborations:** advocate for and share MOOCs in collaboration with SEAMEO (Southeast Asian Ministers of Education Organization) and AAOU (Association of Open Universities).

Challenges:

- Lack of knowledge and awareness about OERs/MOOCs. Teachers should use MOOCs in classes to increase students' awareness;
- Accessibility in terms of connectivity, specifically the quality and cost of Internet connection;
- Language barrier as most MOOCs are in English;
- Quality issues which highlight the need for quality standards and policies;
- Lack of policy support for credit recognition and MOOC certification;
- Addressing the challenges: partnering with industry to offer MOOCs, designing institutional or university-level policies to provide workload credit for MOOC developers and coordinators, charging a fee for certification, and promoting corporate social responsibility to improve the business models for MOOCs and their sustainable development.

Case Study 6: Hamdan Bin Mohammed Smart University: Education During the Pandemic with the HBMSU Survival Kit

Prof. Moustafa Hassan
Vice Chancellor of
Hamdan Bin Mohammed Smart University

Hamdan Bin Mohammed Smart University is the first accredited university for online and blended education in the Arab World. The university follows a life-long learning philosophy and offers different course programs for communities and casual learners aged between 7 and 99. During the pandemic, the university developed Survival Toolkits for teachers to guide their online teaching practice. Such toolkits include short, focused, and free courses to help teachers access knowledge and skills related to online education.

These courses are offered in five languages, namely English, Arabic, Spanish, Russian, and French, to serve teachers in different time zones and from different regions.

Two examples:

Course 1: Becoming an Online Tutor in 24 Hours (duration: 3-4 hours)

- Introduction: What is online learning technology
- Module #1: Learning management tools
- Module #2: Connecting tools
- Module #3: Creating tools
- Course final assessment

Once participants pass the final assessment, they can immediately receive a certificate.

Course 2 (advanced): Designing an Online Course in 24 Hours (3-4 hours of online self-paced course)

- Introduction: Online learning design landscape
- Module #1: Planning an online lesson in a few steps
- Module #2: Designing an online lesson using Google Classroom
- Module #3: Designing an online lesson using MoodleCloud
- Course final assessment

Once participants pass the final assessment, they can immediately receive a certificate.

The number of enrollments of the two courses reached 334,675. A total of 101,778 participants from 101 countries have received the certificates.

Case Study 7: MOOCs Malaysia, a Frontrunner in Credit Recognition in Developing Countries in Asia-Pacific

Prof. Zaidatun Tasir
Dean of Faculty of Social Science & Humanities
of Universiti Teknologi Malaysia

When Dewey developed the Theory of Inquiry in 1938, he also put forward the notion of "Learning Community". Today's learning communities are often based on webpages, learning management systems, and Facebook groups. Meanwhile, the notion of learning community has been replaced by "learning with the crowd", and MOOC is an important approach toward achieving “learning with the crowd”.

Malaysian Education Blueprint 2015-2025 (Higher Education) brought up two goals: building a nation of lifelong learners and globalized online learning, which are the founding principles of MOOCs Malaysia.

MOOCs Malaysia is developed and run by all universities in Malaysia. The initiative has 456 courses and over 400,000 learners. OpenLearning is MOOCs Malaysia's official platform.

Development of MOOCs Malaysia

- Blended learning: before 2014, Malaysian higher education institutes offered sporadic online courses through E-learning, OERs, video conferencing, and live-streaming.
- Centralized: in 2014, Malaysia's Ministry of Higher Education (MoHE) offered 4 compulsory courses on OpenLearning for 20 public universities. Since then, most OERs in Malaysia have been provided on OpenLearning.
- Institutional initiatives: higher learning institutes developed MOOCs in their niche areas of expertise and put them on OpenLearning.
- MOOCs with industry: after 2020, MOOCs Malaysia will develop more specialized courses by involving experts in course design.

Features:

- **Every university has developed MOOCs in their niche areas of expertise.** For example, Universiti Teknologi Malaysia (UTM)'s niche areas are computer science, engineering, and technology. UTM also encourages the development of courses with "Malaysian flavour".
- **The first to allow credit recognition and transfer on MOOCs.** According to Malaysian Education Blueprint 2015-2025 (Higher Education), the Malaysian Qualification Agency (MQA) is responsible for credit transfer policies that allow 30% of the credits of any degree program (Bachelor's, Master's, and PhD) to be gained through MOOCs. With such policies, Malaysia became the first country to allow credit recognition and transfer on MOOCs. Apart from Malaysian MOOCs, MQA also recognizes MOOCs from other countries as long as the courses are up to standards.

Challenges:

- Lack of skills in developing MOOCs: teachers need to develop courses that are more suitable for online learning and teaching.
- High attrition rates.
- Readiness towards self-directed learning: students need self-directed learning skills in order to benefit from online courses.
- Difficulty in assessment: many faculty members think that it is difficult to assess students' online learning outcomes.
- Lack of student engagement.

Conclusion:

- Instructional design: instructional design is the core of MOOCs. Education professionals should design self-explained L&T materials.
- Innovate "anything" that works: instructors should try to innovate anything that works for online education to boost students' engagement.
- Be creative, be bold, be happy, and be passionate: instructors should be creative and bold in course design and be happy and passionate during teaching.

Case Study 8: Virtual University of Pakistan: A National Centre for Quality Online Education and A Pillar of Education During the Pandemic

Mr. Tariq Naeem
Rector of Virtual University of Pakistan

Virtual University of Pakistan is a public online university established by the Pakistani government. Its degrees are recognized in Pakistan and even in the rest of the world. Founded in 2002, the university has over 200 campuses in 130 cities in Pakistan. Its satellite signals can reach over 50 countries and regions in Asia-Pacific. It has enrolled 350,000 students, and 11,741 of them come from 109 countries and regions outside Pakistan. The university also has 70,000 alumni.

It has already uploaded 10,000 hours of courses to its official website and YouTube. Apart from regular teaching, the university is also responsible for the DigiSkills.pk program initiated by the government. It is a very successful program and has provided free training to 1.5 million Pakistani learners. Open Courseware - Virtual University of Pakistan, was launched in 2017, and offers MOOC certificates and credentials.

Features:

- A pioneer in ICT-based education through broadcast television and the Internet.
- An outstanding development team, a strong Learning Management System, and a well-structured educational system.
- Full-time devoted faculty trained with the latest pedagogies of ODL (Open and Distance Learning).
- Robust, highly efficient and transparent examination system where students can make appointments and take exams and teachers can mark exam papers.
- Enhanced audio and video production facility with state-of-the-art television studios.
- Four free-to-air education television channels.

Thanks to the online model and flexible exam system, university faculty staff swiftly switched to working from home, and students were able to attend courses and take exams online.

Experience:

- MOOC is a disruptive innovation for higher education. We should realize the great potential of blended teaching and learning.
- We should increase the use of technologies in higher education such as the IoT, AI, and 5G.
- OERs are good supplements to the classroom, to micro-credentials, and to lifelong learning.

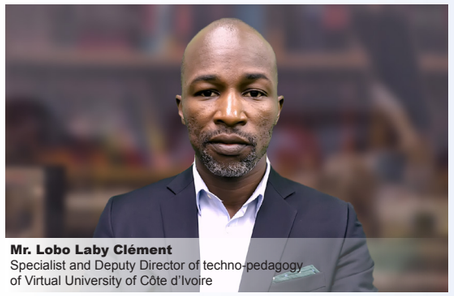
Trends:

- Build a global network for resource sharing to boost educational cooperation.
- Incorporate media to mainstream educational pedagogies to promote educational content.
- Provide trainings for media professionals specializing in audio-video productions for educational and learning contents.
- Provide free and open educational resources to deliver equitable and inclusive education.
- Develop emerging and hybrid disciplines to meet future needs.

Challenges:

- Limited adoption of ODL policies at the government and institutional levels.
- Low international/national recognition of MOOCs, which leads to low acceptability in all industries.
- The need for free-for-all OER development and access.
- Few teachers are capable of producing high-quality online courses, which calls for more teachers training for instructional design.
- Inadequate IP and licensing policies.
- Lack of willingness for resource sharing among stakeholders.
- Lack of a digital media ecosystem that can transfer and provide access to media contents in multiple ways, i.e., through online platforms, broadcasting, and others.

Case Study 9: Virtual University of Côte d'Ivoire: Faculty Capacity Building and Swift Response to COVID-19



Mr. Lobo Laby Clément
Specialist and Deputy Director of techno-pedagogy of Virtual University of Côte d'Ivoire

Established in 2015, UVCI concluded phase one academic accreditation in 2019. It now offers French-and English-based educational resources on UVCI and MOOC UVCI. Since teachers' capacity building and technological support have been the priorities of UVCI, the university was able to promptly switch all resources online and continue offering courses even when the campus was closed.

Features:

- With a consistent focus on teachers' capability building and technological support, the university was able to swiftly carry out online teaching and learning.
- UVCI also prioritizes partnerships by developing and sharing international educational resources and technical training resources with partners.

Trends:

- Promote Open Educational Resources (REL, ODL, MOOCs).
- Adopt blended learning.
- Reinforce digital pedagogy for all teachers.
- Extend community practices among students across the country.
- Deepen the collaboration with UNESCO-ICHEI and IIOE to build standards for teaching quality assurance.

Challenges and Opportunities:

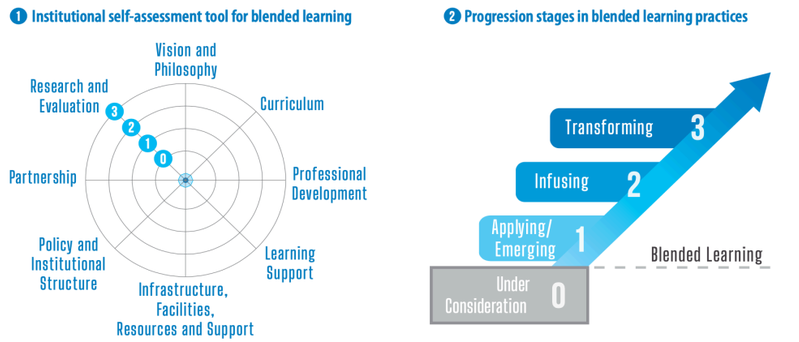
- Côte d'Ivoire has a small population of about 25 million. Therefore, the need for higher education is relatively small. But during the pandemic, online education has expanded the coverage of education.

4. UNESCO Blended Learning Self-Assessment Tool for Quality Higher Education: Introduction and Dimension-Based Analysis

4.1 Introduction

UNESCO Blended Learning Self-Assessment Tool for Quality Higher Education is based on institutional case studies, regional consultations hosted by UNESCO and the International Centre for Higher Education Innovation under the auspices of UNESCO (UNESCO-ICHEI), and fieldwork on Higher Education Institutions (HEIs) and relevant organizations in the Asia-Pacific. This framework is developed based on the analysis of online and blended teaching and learning practices in HEIs. It includes eight strategic dimensions (See Exhibit 1): 1. vision and philosophy; 2. curriculum; 3. professional development; 4. learning support; 5. infrastructure, facilities, resources, and support; 6. policy and institutional structure; 7. partnerships; and 8. research and evaluation. As a result, higher education leaders can draw on this framework to assess their institutional readiness across the eight dimensions and four progression stages, from under consideration, to applying, infusing and transforming higher education through blended learning. By considering their institutions' performance in resource distribution and personnel mobilization, HEI leaders can adopt the tool and grade their institutions on a scale of 0 to 3 according to the four stages.

Exhibit 1: Eight key dimensions to build institutional readiness for blended learning



Source: blendedlearning.bangkok.unesco.org

4.2 Dimension-Based Analysis

This report adopts the Self-Assessment tool to analyse the case studies on the practice and challenges of online education in different countries and institutions shared by speakers in sub-forum 3 to better inform online education practices.

Strategic Dimension 1: Vision and Philosophy

In 2015, the United Nations announced the Sustainable Development Goals. And the fourth goal, SDG4, aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all by 2030. SDG4 has since become the shared vision for UNESCO and HEIs around the world. In Education 2030 Framework for Action, UNESCO proposed that MOOCs should be promoted as a powerful strategy to expand access to education and improve the quality of learning. In 2020, the outbreak of COVID-19 catalysed the rapid development of online learning. MOOCs and other online and blended learning practices offered learners from around the world opportunities to enjoy quality educational resources via the Internet. MOOCs have also expanded from its origins in Europe and America to the rest of the world, especially to developing countries, extending the benefit of online education to more people. MOOC-based blended learning has become the key approach for governments and institutions to achieve the great ambition of SDG 4.

IIOE is the collaborative effort of UNESCO, UNESCO-ICHEI (Shenzhen, China), its partner HEIs, enterprises and international organizations to accelerate progress to achieve SDG4. IIOE has provided Asian and African developing countries with multi-faceted innovation approaches such as sharing resources through online education to enhance quality, boost teachers' ICT competency, and promote governance innovation and education equality.

Following the vision of "serving national strategies", Xi’an Jiaotong University launched the Innovative Talents for Silk Road Development with MOOC program, which offers a large number of online courses to countries along the Belt and Road, and also supports offline and blended learning practices. While serving national strategy, this program also fosters skill development and improves education in underdeveloped regions.

University of Philippines - Open University made its role and vision very clear right after it was founded, which is to help the Ministry of Education promote technology-oriented training and develop targeted courses on the skills needed by industries. It provides high-quality and localized courses and offers skill and professional training to out-of-school youths, overseas Filipino workers, and teachers, contributing to the achievement of SDGs.

In conclusion, as HEIs implement online and blended learning, they remain focused on their visions. Rather than focusing solely on individual courses, they have made efforts to align their course content and curriculum with their vision and learners' demand in order to accelerate the progress to achieve SDG4.

Strategic Dimension 2: Curriculum

The design and implementation of the curriculum should align with the institute's vision and philosophy while also satisfying its own needs. Localization and customization is a good direction for course development and an effective approach to help learners from underdeveloped regions to acquire knowledge.

In 2020, more MOOCs were offered in non-English languages compared to previous years, a trend that can help meet the needs of Asia-Pacific learners. Localization and customization does not only involve the localization of language. It also means incorporating into the curriculum scenarios, case studies, and pedagogies that are more relevant to local learners so that they can identify with the courses and teachers in terms of both culture and language. This can help enhance the quality and efficiency of learning.

At IIOE, a co-development mechanism has been established to encourage in-depth participation of partner HEIs into course design. The online courses and advanced training offered by IIOE include its independently developed resources, and courses co-developed with partner HEIs by utilizing IIOE's software and hardware, taking into account the language, teachers, and students of partner HEIs. These co-developed courses are an apt example of demand-oriented, localized, and customized MOOCs.

University of Philippines - Open University and Hamdan Bin Mohammed Smart University also developed localized courses. Specifically, University of Philippines - Open University developed customized upskilling courses for overseas Filipino workers. Hamdan Bin Mohammed Smart University developed two MOOCs, "Becoming an Online Tutor in 24 Hours" and "Designing an Online Course in 24 Hours", to facilitate teachers with online teaching when the campus was shut down during the pandemic.

Strategic Dimension 3: Professional Development

In this regard, most case studies focused on teachers' capacity building and professional development to help them with online teaching during the pandemic.

After studying the needs and readiness of partner HEIs, IIOE designed demand-oriented ICT competency courses for professional development and launched a teacher accreditation program in partnership with universities in Asia and Africa. Over 2,000 university teachers have attended IIOE courses, with a completion rate of 47%.

University of Philippines - Open University focused on professional skills and offered professional development opportunities for teachers. During the pandemic, it offered university administrators, faculty members, and other staff training opportunities such as rapid and mass training for teachers on how to teach online.

During the pandemic, teachers' online teaching competency became vital to the education system. According to statistics, 40% of users on mainstream MOOC platforms are teachers. However, the number of courses on professional development remains low. During the pandemic, several mainstream platforms rolled out COVID-19 special programs. However, few courses have been developed to help teachers with online teaching. Therefore, ICT-related training provided by different countries proves critical as it can help with teachers' career development and also point out the direction for future professional training.

Strategic Dimension 4: Learning Support

The digital divide has resulted in inequality in education as many low-income countries have found it difficult to carry out online education due to the low internet penetration rate. Therefore, closing the digital divide and offering learning support to a wider population is the prerequisite for MOOCs and blended learning.

IIOE provides learning support by focusing on quality assurance frameworks, mechanisms, and tools. To ensure the quality of online education, it works to improve the learning environment by working with companies to provide partner HEIs with hardware and software support through initiatives such as "Smart Classroom".

Hamdan Bin Mohammed Smart University developed Survival Toolkits for teachers to guide their online teaching practice. Such toolkits include courses that are short, focused, and free in order to help teachers access knowledge and skills related to online education. These courses are offered in five languages, namely English, Arabic, Spanish, Russian, and French, to serve teachers in different time zones and from different regions.

In the case studies mentioned above, HEIs have utilized quality assurance frameworks, mechanisms, and tools to offer learning support in both course content and infrastructure.

Strategic Dimension 5: Infrastructure, Facilities, Resources and Support

Infrastructure and related resources are the prerequisites for blended learning. In particular, for learners in developing countries and regions, necessary infrastructure guarantees learning opportunities and a sound learning environment.

Online courses co-designed by UCL and the University of Lebanon present us with a new perspective on closing the digital divide. By working with local academics, experts, NGOs, and ministries of education, the two universities developed online education platforms and courses for people living in refugee camps. Based on the outcome of this project, they proposed that "infrastructure is not necessarily a pre-condition for MOOCs".

The Virtual University of Pakistan boasts outstanding faculty, a course management system, an examination system, and hardware facilities. Thanks to the online model and flexible exam system, university faculty staff swiftly switched to working from home, and students were able to attend courses and sit exams online.

Hardware and software support is essential to online and blended learning as high-quality content requires high-quality carriers. However, attention should also be given to providing online education in the most challenging situations. Case studies from Britain, Lebanon, and Pakistan serve as great examples of closing the digital divide and promoting educational equality through innovative ways.

Strategic Dimension 6: Policy and Institutional Structure

Online Education policies and regulations implemented at the national level can facilitate blended learning practices, enhance the collaboration among all stakeholders, and tap into the great potential of MOOCs and other online learning formats.

The case study of online courses co-designed by UCL and the University of Lebanon shows that, in less developed regions, apart from collaboration among stakeholders, there should also be an awareness at the national levels of the potential of MOOCs and other online learning formats in higher education. Therefore, governments should design policies and regulations that fit their national conditions and needs.

The Malaysian government introduced credit transfer policies to ensure that the outcomes of MOOC learning are recognized. MOOCs Malaysia, a frontrunner in credit recognition among developing countries in Asia-Pacific, implemented MOOC credit transfer policies that allow 30% of the credits of any degree program (Bachelor's, Master's, and PhD) to be gained through MOOCs. With such policies, Malaysia became the first country to allow credit recognition and transfer on MOOCs. Apart from Malaysian MOOCs, MQA also recognizes MOOCs from other countries as long as the courses are up to standards.

In the case studies mentioned above, MOOC practices have been incorporated into national policies and regulations. This can help play out the positive role of online education and facilitate concrete cooperation among all stakeholders.

Strategic Dimension 7: Partnerships

MOOC-based blended learning is often made possible by the joint efforts of all stakeholders who offer great help by sharing resources and leveraging their respective strengths.

By working with local academics, NGOs, education departments, experts, and master teachers, UCL and the University of Lebanon offered MOOCs to refugees, serving an example on how collaboration can help promote online education in the most challenging environment. With such cooperation, How to Teach Online, a three-week course, was developed within just two weeks. In the first round of enrollment, it received 85,000 registrations, and 23,000 users enrolled in the second round. Forty percent of its active users are from low-income countries.

IIOE has taken advantage of Shenzhen's IT industries and tapped into various stakeholders' expertise and resources, including governments, education departments, HEIs, and teachers. By exchanging and sharing resources, it established a unique curriculum customized for Asia-Pacific countries.
University of Philippines - Open University cooperated with SEAMEO (Southeast Asian Ministers of Education Organization) and AAOU (Association of Open Universities) to co-develop, share, and promote MOOCs.

Government departments, HEIs, teachers, hardware facilities, and software all have an important role in blended learning, which is why the self-assessment tool requires HEI leaders to assess their blended learning practices from different dimensions. This also means that blended learning is different from traditional offline learning. It needs support and cooperation to integrate offline education with the online format. It also required policies, infrastructure, and other support.

Strategic Dimension 8: Research and Evaluation

With the adoption of blended learning, efforts should also be made to study the problems and role phenomena arising in practice. In addition, formative assessment and final evaluation should be conducted to identify and address problems and ensure the quality of education.

Dr. MIAO, in his keynote speech, talked about the issue of digital drop-outs. Some students would turn off their cameras during online courses, making it difficult for teachers to find out whether the students are following the course or not. Therefore, more studies are needed to help turn digital tools into educational tools to keep students engaged.

The SUSTech MOOC Centre, by developing STEM courses and offering modules such as "Blended Learning Application", is dedicated to studying the digital transformation of higher education and supporting blended learning with both theory and practice.

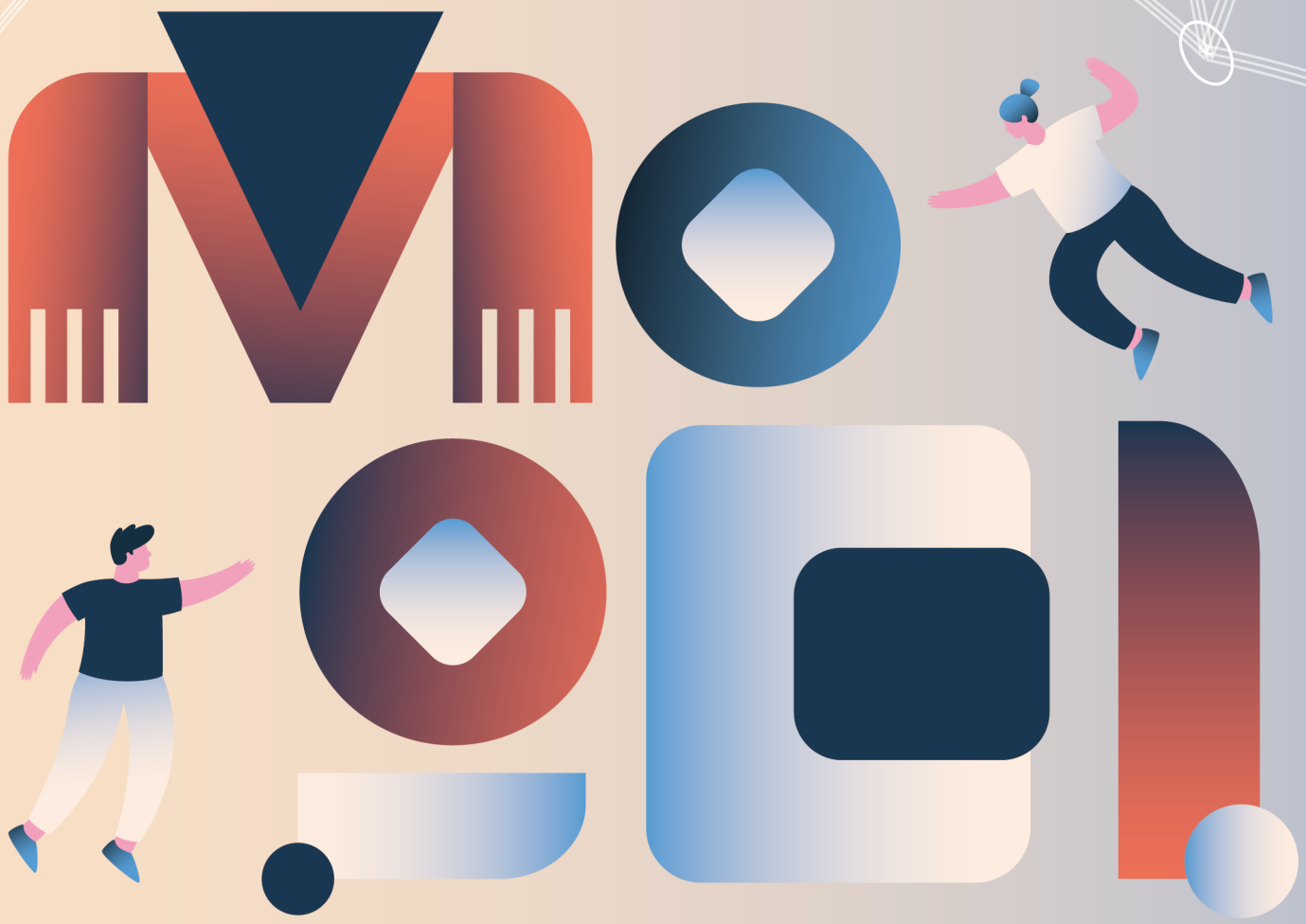
Countries and HEIs should carry out studies on online and blended learning along with assessments to find out practice-based and research-based solutions, especially ones with universal relevance, to problems faced by the MOOC community.

5. Conclusion

At the Global MOOC Conference sub-forum 3, keynote speakers and guests presented a vivid interpretation of the forum's theme "Resource Sharing for MOOCs and Global Higher Education Cooperation" through speeches and case studies. Keynote speakers looked back on the history of MOOCs and offered their take on the development of MOOC in the post-COVID era. To address inequalities in education, all stakeholders should think about how to improve the design of MOOCs and OERs and how to establish and improve resource sharing mechanisms.

Guests from various HEIs also shared the practice of online and blended learning at their institutions during and after the COVID-19 pandemic and pointed out the problems and challenges they face. Based on the "Blended Learning Self-Assessment Tool for Quality Higher Education", the report analyzed the case studies shared at the forum and proved that the suggestions and challenges mentioned by speakers are of universal relevance.

MOOCs and other OERs are designed to be shared across the globe. During the pandemic, online education made it possible for universities to continue providing courses even when campuses were shut down. It transformed education around the world and created opportunities for the rapid development of MOOCs. As a result, MOOCs have become a vital facilitator for the digital transformation of global higher education, making 2020 the birth year of real MOOCs. In the post-COVID era, it will be more important for all stakeholders to join force in sharing MOOC practices and resources and confronting challenges in order to build a new paradigm for global cooperation in higher education.



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