

PERSPECTIVE

RESEARCHERS AT ISEAS – YUSOF ISHAK INSTITUTE ANALYSE CURRENT EVENTS

Singapore | 25 June 2021

COVID-19: A Catalyst for the Digital Transformation of Cambodian Education

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There have been significant improvements made to the education sector in Cambodia over the past few decades. In this photo, students wearing face masks to prevent the spread of Covid-19 coronavirus walk on an overpass on their way to school in Phnom Penh on February 1, 2021. Picture: Tang Chhin Sothy, AFP.

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EXECUTIVE SUMMARY

- Despite positive developments in recent years, Cambodia's education system continues to be constrained by numerous challenges, including limited resources and infrastructure, high dropout rates, skills mismatches, low research capacity, low teaching salaries, and limited utilisation of information and communication technology (ICT).
- While the COVID-19 pandemic has caused considerable disruptions, it also provides an excellent opportunity for Cambodia to strengthen the integration of ICT in education, and foster the digital transformation of its education system.
- Cambodia needs to take advantage of the crisis by continuing to support ICT adoption and integration in education. It also needs to invest in digitalising education, support ICT research and development, strengthen public-private partnerships, promote independent learning, and facilitate the adoption of blended learning.
- Other concerned stakeholders such as educational institutions, teachers, parents, students and the private sector also have a pivotal role to play in achieving digital transformation of education in Cambodia.

INTRODUCTION

In March 2020, the World Health Organisation declared the outbreak of a novel coronavirus (SARS-CoV-2) as a pandemic (COVID-19). The virus originated in China's Wuhan city and was first reported at the end of December 2019. By early 2020, COVID-19 had spread across the globe, causing chaos and disruptions to all dimensions of life. The impact of COVID-19 has been grave and unprecedented, and the anxiety and unpredictability it has caused have far-reaching consequences beyond public health.

In the realm of education, COVID-19 has caused global disruptions, resulting in the temporary closure of schools and universities worldwide and the proliferation of online classes. In a developing country like Cambodia, the impact of COVID-19 has been dramatic. When educational institutions were first ordered to temporarily close in March 2020, they faced difficulties in providing online classes due to limited resources and a general lack of experience in the management of online learning.

However, despite the challenges, all the concerned stakeholders were able to collaborate in order to make online classes possible.¹ It would seem that the pandemic also brings the country an opportunity to scale up the adoption and integration of information and communication technology (ICT) in education.

This article focuses on the educational opportunities enabled by the responses to COVID-19, and examines major reforms in the Cambodian education sector as well as the key challenges facing it. It concludes with recommendations for expanding ICT adoption in Cambodia's education.

MAJOR REFORMS AND KEY CHALLENGES

There have been significant improvements made to the education sector in Cambodia over the past few decades, and it seemed even before the pandemic to be on a positive trajectory.² The Ministry of Education, Youth and Sport (MoEYS), for example, introduced an unprecedented reform to the Grade 12 National Examination in 2014 to prevent exam frauds. Despite its abrupt introduction, the reform managed to gain traction over the years.³ MoEYS also launched a New Generation Schools project in 2015 to improve the quality and relevance of general education as well as to prepare students for work in the 21st century.⁴

In collaboration with key development partners such as the World Bank, MoEYS introduced teacher upgrade programmes to help about 2,000 schoolteachers who teach biology, chemistry, history, Khmer, math, and physics subjects to obtain bachelor's degrees.⁵ Meanwhile, school principals have been trained and supported to improve their leadership and management skills. In November 2019, MoEYS launched a three-year School Leadership Programme (2019-2021) to support 108 principals and deputy principals to upgrade their leadership knowledge and skills.⁶

To improve the quality of higher education, MoEYS launched the Higher Education Quality and Capacity Improvement Project in 2011. This US\$23-million project, funded by the World Bank, was unprecedented. It sponsored more than 50 higher education staff and lecturers to pursue postgraduate degrees and certificates abroad, mostly in Australia.⁷ In

2018, MoEYS, with funding from the World Bank, launched the Cambodia Higher Education Improvement Project, worth US\$92.5 million. This initiative aims to promote the quality of teaching and research in the field of science, technology, engineering and mathematics (STEM) and agriculture in several public universities.

There are other positive developments such as the introduction of a competitive national research grant, called the Research Creativity and Innovation Fund, and the decision to implement a long-awaited professorial ranking system that officially promotes university lecturers to the rank of Assistant Professor, Associate Professor and (Full) Professor, based on their qualifications and merits. These research-focused initiatives are vital in fostering a healthy research culture in Cambodia.⁸

Despite the reforms and positive developments, several key challenges still confront the country. In general education, one of the problems is the prevalent practice of private tutoring or extra classes, which perpetuates educational inequalities and prevents quality teaching and learning.⁹ Other problems include the lack of educational resources and infrastructure; inadequate teaching staff and schools, especially in rural areas; the low quality of teachers and principals; high dropout rates in secondary schools; continued application of traditional teaching methods; and corruptions in schools.¹⁰

The quality of higher education remains an issue. Research has shown that many students graduate with skills not aligned to market needs.¹¹ While a large proportion of students pursue degrees in business, banking and finance, and language education, not many undertake their studies in STEM fields. Limited research capacity among Cambodian university academics is another pressing issue.¹² A recent bibliometric analysis of the Scopus database – one of the world's largest abstract and citation databases – ranked Cambodia 8th among the 10 ASEAN countries in terms of the total number of Scopus-indexed documents published between 2010 and 2019.¹³ Although there are university research activities, most are commissioned, policy-oriented research. Academic research in general is underdeveloped and underfunded.¹⁴

There are also other pressing issues such as policy misalignment across national, institutional and departmental levels;¹⁵ low teaching quality; depressed academic salaries; inadequate resources and facilities for teaching and research;¹⁶ limited stakeholder involvement;¹⁷ an ineffective governance and financial management system;¹⁸ and minimal use of ICT in teaching and learning.¹⁹

ICT ADOPTION INDUCED BY THE PANDEMIC

Despite the enormous disruptions it has caused, COVID-19 has provided a golden opportunity for increasing the use of ICT in education and deepening educational reforms. At the same time, the pandemic facilitates the enhancement of the public-private partnership, with MoEYS establishing collaboration with different key stakeholders, including development partners (JICA, UNICEF) and the private sector (Cellcard, Metfone, Smart Axiata), in order to offer online learning opportunities to students.²⁰

The COVID-19 pandemic has indeed set in motion the digital transformation of education in Cambodia. Notably, MoEYS established the Centre for Digital and Distance Learning in June 2020 to boost digital learning and teaching,²¹ and it has produced hundreds, if not

thousands, of video lessons that are being broadcast on TV and social media platforms such as Facebook and Telegram. In collaboration with the Union of Youth Federations of Cambodia, MoEYS recently launched an e-learning app called MoEYS E-Learning, to support online learning during the pandemic.²² The app contains video lessons, e-books, tests and other useful information for students from grades 1 to 12. It is a welcome initiative that will help to promote independent learning and support digital education. Meanwhile, many schools and universities have gained experience in offering and managing online classes, leading to increased interest in online and blended learning (combining online with face-to-face learning). This experience is invaluable for administrative and academic staff to help them navigate online learning and understand blended learning in the future.

Before the pandemic, online learning and blended learning were relatively new concepts in Cambodia.²³ Not many schools or universities fully embraced the concept of blended learning due to structural constraints such as limited technological and human resources as well as a lack of experience and motivation.²⁴ However, COVID-19 has enabled, if not forced, educational institutions to embrace online learning as an alternative to face-to-face learning. Through online learning, many educational institutions were able to continue educating students.²⁵

COVID-19 has also contributed to an environment conducive to integrating blended learning into mainstream classes. As classes move online, all stakeholders, including MoEYS, educational institutions, teachers and students, have invested in necessary technological tools that facilitate online learning.²⁶ Many private schools and universities have, for example, begun to use Learning Management Systems, and there will consequently be more resources for online or blended learning post-COVID-19. The infrastructure and experience accumulated during the COVID-19 crisis will act as a strong impetus for the greater utilisation of ICT in Cambodian education in the future.²⁷

In the context of Industry 4.0, where technology plays a leading role in driving socio-economic innovation and development, technology-enhanced classrooms are the future of education. COVID-19 has offered a timely opportunity to rethink education in Cambodia as the country seeks to enhance its relevance and competitiveness in the region. In today's digitalised world, traditional methods of teaching and learning and the reliance on face-to-face classes are not helpful and are relatively inefficient, especially given the technological advancements and the lessons learned from the disruptions caused by the COVID-19 pandemic. There is therefore a pressing need to digitalise the education system and enhance its quality to ensure that the new generation of Cambodians can be trained into a highly skilled and capable workforce.²⁸

Despite the opportunity for wider ICT adoption in education, many challenges remain, especially for students in rural areas and for those from weak socioeconomic backgrounds. Many students, for instance, reportedly faced challenges in accessing online educational resources due to their lack of experience using online platforms and to their limited access to the internet and ICT devices.²⁹ Although the internet penetration rate in Cambodia has quickly risen from less than 2% of the population in 2010 to 50% in 2019, it is lower than the world average (56%) and that of many countries in Southeast Asia, including Thailand (69%) and Vietnam (61%).³⁰ The overall technological infrastructure needed to support online learning and the digital transformation of education remains weak. In fact, almost 80% of Cambodia's population live in rural areas, and many suffer problems related to the

unavailability and unaffordability of technological devices and services, as well as to the lack or unreliability of electricity supply.³¹

RECOMMENDATIONS

Post-pandemic Cambodia needs to build on the positive momentum generated by COVID-19 to expand ICT utilisation in education and accelerate the digitalisation of the education system. Following are some suggestions towards this end.

Invest in the digitalisation of education. The integration of ICT and blended learning into mainstream classrooms, particularly in school, deserve serious attention from both policymakers and other stakeholders. The government thus needs to invest in digitalising the education system to ensure that students become digitally literate and technologically savvy, and are equipped with knowledge and skills needed in the digital economy.

Support ICT research and development. Research that examines how ICT can be effectively used in the Cambodian education context should be conducted, promoted and properly funded. Specifically, research into how this can be done in schools, particularly those in rural areas, should be fully supported. Researchers should investigate the challenges faced by Cambodian students and teachers as they embrace online education during the pandemic. An understanding of the attitudes and experiences of these key actors towards online and blended learning is vital.

Strengthen public-private partnerships. To broaden the adoption of ICT in education, different stakeholders have a crucial role to play. At the national level, MoEYS should continue to actively engage and expand collaboration with the private sector and development partners. Strengthening public-private partnerships is essential given the limited resources the government can commit to education. The development and provision of technological infrastructure in schools need to be maintained and proliferated.

Facilitate the integration of blended learning. Greater efforts should be made to integrate blended learning or hybrid classroom models into the mainstream face-to-face classrooms. This requires effective leadership, strong commitment and institution-wide collaboration. Educational institutions must ensure that their library facilities or website have up-to-date learning resources that can support students' independent and online learning. Online and blended learning must be accompanied by abundant learning resources that encourage independent study. Professional development programmes for teachers and lecturers also need to be delivered on a frequent basis. The design and creation of learning content and objectives must involve input from teaching staff who are involved in implementing hybrid or blended learning.

Promote independent learning. The production and dissemination of video lessons and other learning resources should continue even after the pandemic is over. Making video lessons available online or on television offers students the opportunity to engage in self-study and self-directed learning. This is essential for the promotion of learner autonomy and independent learning, especially in the Cambodian context where students remain heavily dependent on their teachers.

In considering these recommendations, it is imperative to pay close attention to “effective planning, budgeting, controls and communication”³² as well as to micro-level practices of individuals responsible for adopting and implementing ICT in education. Moreover, concerted efforts and collaboration by all relevant stakeholders are needed to promote digital skills and competencies, increase the availability of digital devices/tools, and improve pedagogies for teaching and learning in the digital age.³³

CONCLUSION

Efforts to improve Cambodia’s education system have been seriously disrupted by COVID-19 since early 2020. However, the pandemic has also brought the opportunity to not only deepen educational reforms but also strengthen the utilisation of ICT and modern technologies in education. In fact, the pandemic serves as a catalyst for transforming and modernising the education system.

Therefore, all relevant stakeholders, particularly the Ministry of Education, Youth and Sport, need to take advantage of the crisis and build on the positive momentum to continue ICT adoption and integration in education. With the greater use of ICT and technology in education, Cambodia will be in a better position to produce the quality human resources required to drive its post-pandemic development.

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