South Asia Regional Symposium on ICT for Education
February 2018
About the Symposium

Programme

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Keynote

Session 1: ICT and SDG 4

Session 2: Gallery Walk

Session 3: Setting the Context - National Policy on ICT Education

Session 4: Teacher Development for ICT in Education

Session 5: Beyond Foundational Skills for Future-Ready Education

Session 6: Online, Offline, and Open Educational Resources

Session 7: Partnership

Symposium Summary
27–28 February 2018
Colombo, Sri Lanka

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Since 2000, South Asia has made significant progress in improving access to basic education in spite of the many challenges posed by the region’s diverse and large population.

In 2015, the Sustainable Development Goals (SDG) were adopted to end poverty, protect the planet and ensure prosperity for all. SDG 4 on Quality Education, together with the Education 2030 Agenda, aims to “ensure inclusive and quality education for all and promote lifelong learning”. Given this new education agenda, South Asia faces the challenges of improving the quality of education in parallel with the continuing need to increase access.

The Education 2030 Agenda highlights the potential of information communication and technology (ICT) for education to facilitate progress towards SDG 4. ICT can improve equity and inclusion by enabling access to high-quality instruction and learning materials through, for example, massive open online courses (MOOC), open educational resources (OER) and personalized learning software.

While stable internet connections are not yet ubiquitous in South Asia, the region has led in the innovative use of mobile phone, DVD, and other offline portable computer devices to improve education quality. The use of ICT in education strengthens personalized self-learning, and there is no doubt that ICT is one of the key instruments to strengthen 21st century knowledge and skills. ICT education is not limited to students; teachers require professional training with pedagogical support to maximize the benefits of ICT for education. Better technical support, as well as localized and customized intelligent tutoring systems, are important keys to unlocking ICT’s potential.

The success of ICT in education depends on sound policy planning and implementation on the ground that are closely aligned with the national education goals and complement the national education sector plan.

### Highlights

**Participants**
Government officials, private sector, researchers, development partners and civil society from Sri Lanka and five South Asian countries (Bangladesh, Bhutan, India, Maldives, Nepal)

**Speakers**
International ICT and thought leaders

**Objectives**
- Share regional good practices and challenges on ICT in education;
- Discuss ways to fully utilize existing central and school-level ICT infrastructure in their own country context; and
- Discuss ways to prepare future-ready human capital by the time of graduation from secondary education
## Programme

### DAY 1: 27 February 2018, Tuesday

**Venue:** Shangri-La Hotel, Colombo, Sri Lanka (Spice Room Ballroom)

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<td>09:00 - 09:30 a.m.</td>
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<td>Mr. Sunil Hettiarachchi</td>
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<td>Secretary to the Ministry of Education</td>
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<td>Sri Lanka</td>
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<td>Mr. Shigeru Aoyagi</td>
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<td>Director, UNESCO New Delhi</td>
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<td>09:30 - 10:00 a.m.</td>
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<td>ICT: Solution to Education Challenges</td>
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<td>Mr Sungsup Ra</td>
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<td>Director, Human and Social Development Division, South Asia Department, ADB</td>
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<td>10:00 - 10:10 a.m.</td>
<td><strong>Overview of the Symposium</strong></td>
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<td>Mr. Ryotaro Hayashi</td>
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<td>Social Sector Economist, ADB</td>
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<td>Ms. Jonghwi Park</td>
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<td>Programme Specialist, UNESCO Bangkok</td>
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<td>10:10 - 10:30 a.m.</td>
<td><strong>Coffee Break and Group Photo Session</strong></td>
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<td>10:30 – 12:00</td>
<td><strong>Session 1: ICT and SDG4</strong></td>
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<td>Chief, Education Sector Group, SDCC, ADB</td>
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<td>Mr. Jian Xi Teng</td>
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<td>Programme Officer, UNESCO Bangkok</td>
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<td>Prof. Cher Ping Lim</td>
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<td>Education University of Hong Kong</td>
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<td>Mr. Gan Chia Huey</td>
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<td>Co-Founder, JobKred, Singapore</td>
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<td>Moderator: Ms. Satoko Yano, UNESCO New Delhi</td>
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<td><strong>Bangladesh:</strong> Mr. Md. Abu Sayed SK, Additional Secretary, Secondary and Higher</td>
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<td>Education Division, MOE</td>
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<td><strong>Bhutan:</strong> Mr Yeshey Lhendup, Deputy Chief Program Officer, MOE</td>
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<td><strong>India:</strong> Mr. A. K. Gopal, Under Secretary (ICC), Ministry of Human Resource</td>
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<td><strong>Maldives:</strong> Mr Ibrahim Asif Rasheed,Head of Policy Planning and Research Division,</td>
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<td><strong>Nepal:</strong> Mr Govinda Prasad Sharma, Under Secretary, MOE</td>
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<td><strong>Sri Lanka:</strong> Ms Vasana M.A. Edirisuriya, Deputy Director, ICT Branch, MOE</td>
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<td>18:00 – 20:00 p.m.</td>
<td>Networking Reception/Dinner</td>
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<td>09:00 - 09:15 a.m.</td>
<td><strong>Introduction</strong>&lt;br&gt;Review of Day 1 and Brief Introduction of Day 2 Program</td>
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<td>9:15 – 10:45 a.m.</td>
<td><strong>Session 4: Teacher Development for ICT in Education</strong>&lt;br&gt;Preparing Teacher to be a Change Agent – Singapore Experience&lt;br&gt;Competency-Based Teacher Development on ICT in Nepal – Developing Teacher’s Capacity to Utilize School ICT Infrastructure&lt;br&gt;MOOCs as an Alternative for Teacher Professional Development&lt;br&gt;Q&amp;A and Open Discussion</td>
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<td>10:45 - 11:00 a.m.</td>
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<td>11:00 – 12:00</td>
<td><strong>Session 5: Beyond Foundational Skills for Future Ready Education</strong>&lt;br&gt;Digital Skills for Decent Work for Youth&lt;br&gt;CODE@SG - Developing Computational Thinking and Making as a National Capability&lt;br&gt;Q&amp;A and Open Discussion</td>
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**Session 6: Online, Offline and Open Educational Resources**

- Use of ICT in Math Education: Case Studies of MathCloud in Sri Lanka and Bhutan
- Transforming Education with the use of ICT in Korean Case
- Teacher-led Content Development
- Distance Learning for Both Online and Offline Environment in Nepal
- Q&A and Open Discussion

**Speaker/Organisation**

Moderator: Mr. Seok Yong Yoon, Principal Public Management Specialist (e-Governance)

Mr. Seunghoon Ji, General Manager, MPDA.inc, Korea
Dr. Bilesha Weeraratne, IPS, Sri Lanka
Mr. Yeshey Lhendup, Deputy Chief Programme Officer, MOE, Bhutan
Mr. Jaewon Cho, KERIS, Korea
Mr. Md. Afzal Hossain Sarwar, Access to Information, Prime Minister’s Office, Bangladesh
Dr. Purusottam Kharel, Assistant Professor, Department of Computer Science and Engineering, Kathmandu University, Nepal

**Coffee Break**

**Session 7: Partnership**

- ICT in Education for ADB Operations
- UNESCO’s Projects 2018-2019
- Discussion of Action Plan by Country (Bangladesh, Bhutan, Maldives, Nepal, Sri Lanka)

**Speaker/Organisation**

Moderator: Ms. Mel Tan, UNESCO Bangkok

Mr. Brajesh Panth
Chief, Education Sector Group, SDCC, ADB
Ms. Satoko Yano, UNESCO New Delhi
Ms. Jonghwi Park, UNESCO Bangkok
All participants from Bangladesh, Bhutan, India, Maldives, Nepal, Sri Lanka

**Closing Remarks**

Mr. Brajesh Panth
Chief, Education Sector Group, SDCC, ADB

*Opening Remarks by Mr. Sunil Hettiarachchi, Secretary to the Ministry of Education, Sri Lanka*
South Asia Regional Symposium on ICT for Education has successfully been completed. The symposium was jointly organized by Asian Development Bank (ADB) and UNESCO, and there were around 100 participants coming from Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka, as well as the Republic of Korea, the Philippines, Singapore, and Thailand.

The symposium served as an opportunity to:
- share regional good practices and challenges on ICT in education;
- discuss ways to fully utilize existing central and school-level ICT infrastructure in their own country context; and
- discuss ways to prepare future-ready human capital, especially at completion of secondary education.

In the keynote speech, Mr. Sungsup Ra of the ADB argues that investment on ICT for education requires a balance in hardware, connectivity, people and contents. Korea and Singapore used to be very poor in the 1960s, but within one generation, these two countries achieved economic miracle by continuously investing in education. Investment in telecommunication and ICT started in the 1980s and growth accelerated to become a high-income country. This inspires developing South Asia, but investment is rather focused on procurement of hardware, and other key ingredients, such as connectivity, people and contents, have not received adequate attention.

Balanced investment requires good planning, and the speakers stress the need to develop a comprehensive ICT in education master plan with clear milestones towards achieving national education goals. Sri Lanka is in the process of developing a new ICT education master plan, and other South Asian countries, such as Nepal, have implemented the ICT education master plan. For better policy planning and implementation, the recent ADB report on ICT for education identified several key areas:
- better coordination
- better technical support for teachers
- just-in-time and differentiated ICT in education professional learning for teachers
- better pedagogical support for teachers
- localized and customized intelligent tutoring system, and
- monitoring and evaluation.

Professional teacher development on ICT for education is a recurring theme during the symposium. The Singapore experience suggests that time, acknowledgement and innovative funding source are key for short-term solutions, and appraisal of faculty, sharing of best practices, recognition of innovative practices, and setting up support teams will help for long-term solutions. Nepal shared its experience in competency-based teacher development on ICT, and the Chinese case of using Massive Open Online Courses (MOOCs) for professional teacher development was also presented as a good practice.

The private sector is increasingly active in developing digital educational contents through partnership with government. The Gallery Walk was an opportunity for symposium delegates to learn about a variety of successful ICT in Education projects being implemented by key development players and the private sector. Delegates were able to learn about infrastructure alternatives, capability-building initiatives, coding programmes, multimedia content, and research opportunities, while exploring possible partnerships for replication in their respective contexts. While some of the digital education contents are available for free, commercial products have advanced function, such as adaptive learning in MathCloud piloted through ADB technical assistance in Sri Lanka and Bhutan. Sustainable funding for commercial products can be a big challenge, but it is worthwhile for the government to consider ways to forge partnership with private sector.

Coding is an emerging area for educating future ready children. Coding is a practice of developing a set of instructions that a computer can understand and execute, which requires knowledge of computer science and computational thinking. Coding has been explicitly incorporated in school curriculum for some countries, such as Australia, Estonia and the United Kingdom, but Singapore implements coding as part of certain subjects. They use block-based programming (e.g., scratch) until Grade 7, followed by text-based programming (e.g., Java, Python) after that. Singapore has a “Code for Fun Enrichment Programme” experimented in more than 150 schools using micro:bit.

ICT for education is identified as a priority area in SAARC Framework for Action for Education 2030, and UNESCO will support and monitor the progress. There are two key global indicators to be monitored:
(i) proportion of youth and adults with ICT skills (SDG4.4.1), and (ii) proportion of schools with access to the Internet and computers for pedagogical use. The systematic use of ICT in education sector is important, and the Asia-Pacific Regional Strategy includes secondary, TVET, and higher education as priority areas in using ICT. UNESCO Bangkok will facilitate sub-regional knowledge sharing. During the symposium’s final country action planning session, all the participating countries commonly identified two key priority areas: (i) ICT in education national policy development and (ii) improving teachers’ ICT skills and their use of ICT in teaching and learning. Other key priority areas that were raised included developing digital learning resources, enhancing curriculum and EMIS.

The symposium was relevant to participants and participants rated its impact highly. Based on the evaluation forms received from the participants, the symposium will have a high impact on both policy development (4.4/5) and policy implementation (4.3/5) in their country. Teacher development was identified as the main initiative that participants wanted to implement in their countries (47% of respondents). The symposium’s content was consistently rated as “relevant” to “highly relevant” by the participants. The sessions on teacher development, keynote, educational resources and partnerships were also found as the most relevant.

ADB and UNESCO extend their sincere appreciation for the extensive support provided by the Ministry of Education, Government of Sri Lanka, to host this symposium.

Sungsup Ra, Director, Human and Social Development Division, South Asia Department, ADB

Within one generation, Republic of Korea and Singapore were able to achieve economic miracles, partially due to a holistic approach of strong investment in education and ICT. This can serve as an exemplary case for countries in South Asia.

Several education challenges in the sub-region persist with a need to significantly improve access to education, increase the quality of learning, and strengthen education governance. Meanwhile, the changing demands for the 21st century are placing increasing importance on non-routine analytical and interpersonal skills.

ICT for education could provide a solution to the remaining challenges and plan an instrumental role in preparing future-ready human capital. It requires a balanced investment in hardware, connectivity, contents, and people. Initiatives are not always expensive nor do they require universal access to the internet. But, the balance of investment is context specific, and each country must determine its own pathway by learning from global, regional and local cases of success and failure.
The first session of the symposium focused primarily on providing an introduction to ICT and SDG 4. The speakers pointed out the importance of government policies which are developed and implemented to fully achieve the opportunities offered by ICT. ICT for education could be evaluated using UNESCO’s four progressive stages of ICT in education adoption: Emerging, Applying, Infusing, and Transforming.

It is useful to conceptualize the bigger picture and see how education cuts across through all 17 Sustainable Development Goals (SDGs) and implement a regional strategy. SDG 4, linked to quality access and lifelong learning, has several challenges. Regardless of race, gender and the region, all children are entitled to have an access to quality education. There is a need to produce global citizens with the relevant 21st century skills. ICT provides this platform through education to teachers and students.

The international community has recognized ICT as an essential enabler for education, particularly for teachers and girls. ICT can strengthen capacity for teachers to facilitate, think and learn anywhere; not for them to be replaced by technology. Developing capacity for teachers take time, and education system needs to integrate teachers into a new ICT based teaching methodology. It is also important that women and girls have access to appropriate infrastructure and technology.

The new skill sets needed for employment is continuously evolving. It is possible that in the year 2020, a third of the skill sets that are required would not be what we have now. Technology has changed the way we think. Children need to be critical thinkers. There needs to be a more balanced and personalized learning methodology.

There is a tendency, however, for the current education system itself to hinder education and its growth. It is imperative for teachers and students to make their experiences with ICT more enjoyable, with the freedom to explore and create.

ICT is not a silver bullet to address all the issues, but there is a specific set of skills that could be developed with ICT. With the understanding of different type of job titles that are available in the labor market, quality and relevance of the education can be strengthened to prepare for digital citizenship.
The Gallery Walk Session served as a unique platform for the participants to learn about key development players and explore partnership opportunities on promising ICT programmes and projects. Presenters also benefited by gaining a better understanding of the priorities and needs of participating countries through direct interactions with high-level representatives.
Session 3: Setting the Context – National Policy on ICT in Education

The representatives from South Asian countries shared their national experiences of ICT in education including ICT in education master plans. Through this session, participants explored solutions against challenges common to the region.

**Bangladesh**
The Government of Bangladesh upholds “Digital Bangladesh,” understanding the importance of ICT in education in creating holistic development.

Bangladesh has developed certain facilities, including a student learning department and the continuous training of teachers in ICT, in which teachers are provided with educational materials such as laptops and content.

The government has allocated a large funding to develop infrastructure, provide internet access, electricity and ICT rooms to schools. In partnership with ADB, Bangladesh has established 640 computer laboratories. Currently, there is an increase in teacher training in ICT on a national level.

**Bhutan**
The use of ICT for education in Bhutan is still at the initial stage. Internet and television were introduced in 1999 while mobile services were introduced in 2003.

The Government of Bhutan realized that the nation was lagging behind in terms of ICT, and thus added computer education to the existing syllabus. In 2008, the government worked with the Government of India to help set up computer labs in 160 schools and introduced ICT to students between grade 7 and grade 12.

In 2013, an ICT education masterplan was developed in partnership with Singapore. The masterplan focused on laying a foundation for ICT to: (i) develop the capacity of teachers and support staff, (ii) rebuild the existing curriculum, and (iii) ensure the setting up of internet and connectivity.

Being a landlocked country, connectivity is difficult and the cost of the internet is high. Schools are not able to provide good IT access to all students because many schools have less than a hundred students. Despite these challenges, the government of Bhutan is making progress to develop a good school system with usable ICT facilities.

**India**
Focusing on digital infrastructure, a centrally sponsored scheme on computer labs and teachers has been implemented since 2004 by the Government of India. A ten-day training course, followed by a five-day refresher course, has been made available to teachers.

To date, 90,000 schools have been provided with ICT infrastructure. In addition, the government has digitized all books at the national level in Hindi, English, Urdu and Sanskrit. A portal accessible to parents has also been developed and translated into 29 languages. India has a national library that enables teacher training. The library provides teachers with more than 400 online courses and over 2 million teachers have enrolled for the courses.
India, however, has faced several challenges in implementing ICT for education. Over 1.6 million teachers in schools are untrained. Taking these teachers out of school to provide them with relevant training can cause negative repercussions as there will be no alternative teachers in school. Providing offline digital content is another challenge.

Maldives
The education policy of the Government of Maldives is to ensure that no student is left behind. One of the main challenges the government faces is the high number of untrained teachers. The first masterplan was implemented in 2015, with teacher training and access to ICT as the key components to address this issue.

Despite the challenges of the high cost of the internet, the Government of Maldives has been able to utilize the use of ICT in a diverse manner through all digital devices. There are 20 video training centers to reach out to teachers across the islands. The conferences/lectures conducted in the best schools in Male are accessible through video at schools in remote areas.

The government has started multi-grade classrooms, allowing teachers to use ICT as a tool to assist teaching. The Maldives Education Management System (MEMS) provides real time data to monitor the progress. Mobile applications are also used for this purpose.

Nepal
The ICT policy in 2010 made a provision to develop IT facilities in all Nepalese schools. By 2014, 143,000 schools were able to sustain the necessary cost for maintenance of the IT facilities provided by the government.

The new ICT for education master plan is being prepared in 2018, and there would be a strong focus on SDG related to ICT and classroom improvement, including further strengthening Education Management Information System (EMIS).

Under the School Sector Development Plan, model schools are being established with the focus of ICT, science and math education. The government’s position is that all citizens have the right to free and compulsory education, and the new masterplan aims to ensure quality education to all.

Sri Lanka
The government understands the value of ICT for education. Initiatives in the teaching and learning process have been conducted, where E-thaksalava textbooks (smart textbooks) and supplementary materials have been introduced to ensure collaborative learning.

The zonal and provisional level ICT education hubs are continuously being empowered with a key focus on maintenance, hardware developing, monitoring and network developing. The National Education Management Information System is also developed, and ICT has been introduced as an optional subject in schools.

The Government of Sri Lanka, however, has not been able to provide the required facilities and resources to all schools. In collaboration with UNESCO Bangkok, the Government of Sri Lanka explores solutions to these challenges by drafting of the ICT education masterplan.
Session 4: Teacher Development for ICT in Education

Professional teacher development in ICT for education is critical. While many countries acknowledge the need, there is a significant lack of investment in teacher development. The fourth session allowed three speakers from different countries (Singapore, Nepal, and People’s Republic of China) to present the means through which they have focused on teacher development for ICT in education.

Singapore
There is a need for the government to actively engage in developing teacher competencies. The Government of Singapore has introduced four education master plans, each of which has methodically integrated ICT into education.

The master plan initially focused on skills and teacher development. However, it evolves to see teacher as designers of education in the learning environment. Importantly, there needs to be a change in the attitudes and the mindset of the teachers. Without these changes, it would be extremely difficult for progress to be made.

Nepal
Integration of ICT into teacher professional development helps teachers organize interactive learning. ICT has the potential to relate students’ learning to their daily experience, social development, and technological innovation.

The ICT education masterplan in Nepal focuses on teacher development and training. Integrating technology tools and resources into teacher development through online courses is considered as essential.

People’s Republic of China
Massive Open Online Courses (MOOCs) are carried out in China for professional teacher development. Many teachers can register for online courses and learn at their own pace. The MOOCs allow teachers to continue with the course in case there is a hindrance to their studies. It allows the possibility of forming a teaching-practice community across regions and disciplines.

There are over 10,000 teachers who have enrolled with the MOOC program, indicating the desire and need to change the method in which they teach. The relevant design in terms of education and culture as well as promoting self-learning environment should be at the forefront to plan MOOCs.

Speakers in this session (L-R): Qiong Wang, Director of X-Learning Center at the Peking University, China; Smita Gyawali, ADB representative in Nepal; and Shyam Singh Dami, Deputy Director of the National Centre for Educational Development in Nepal
Session 5: Beyond Foundational Skills for Future-Ready Education

Training in- and out of school youth with basic and advanced digital skills can connect young people with job opportunities for the future. Fostering decent and inclusive employment and entrepreneurship opportunities in the digital economy in line with the SDGs (SDG 4, 5 and 8) is crucial for successful implementation of ICT in education.

There are over 71 million unemployed youth globally, and serious attention needs to be paid to see what opportunities could be generated to create jobs.

There are a few solutions:

1. Look at ICT in education at the highest policy level. It is important to have national strategies and collate with public state partnerships.

2. Introduce a curriculum or a subject at school level to ensure that all students, including girls, are given access to ICT.

3. Introduce informal training programs, such as coding, to allow digital skill training that is useful as they directly link the students with labor market. Finally, steps should be taken to provide soft skill development at the workplace.

Barely any discipline or profession today remains untouched by computation. Infocomm Media Development Authority (IMDA) Singapore, for example, has a strategic program called CODE@SG in place in schools and communities to ensure that future generations are adequately equipped with the necessary digital skills to enter the fourth industrial revolution. Supporting the development of students who have the talent and interest in computing can help them to pursue career opportunities in technology, both locally and globally.

Before the program was launched in school, it was ensured that teachers were given adequate training and taught how to utilize time. Teachers were taught basic coding, digital making, and how to use micro:bits during a three-day program.

It is important to portray to the teachers how ICT is needed in job creation, and inform teachers how the pedagogy of coding links to the subject they are teaching. It is also essential to think about collaboration, critical thinking, partnerships and communication.
Session 6: Online, Offline, and Open Educational Resources

Four case studies of online, offline and open educational resources were discussed in this session. The case studies include: (i) MathCloud in Sri Lanka and Bhutan piloted through ADB technical assistance, (ii) distance learning in Nepal, (iii) teacher-led content development initiative in Bangladesh and (iv) transforming education in Korea with the use of ICT.

MathCloud in Sri Lanka and Bhutan
MathCloud improved learning outcomes in Sri Lanka and Bhutan while some challenges remain.

MathCloud is an online-based learning platform, content and algorithms for adaptive math learning. Developed by MPDA Co. Ltd. in Korea, and with ADB technical assistance, MathCloud was localized into the context of Sri Lanka and Bhutan by making their content and merge it with the software. The results showed that students with MathCloud have better test scores than those students without MathCloud, both in Sri Lanka and Bhutan.

During the implementation, the challenge was to raise the level of IT skills of the students which were not up to standard. Another concern was that teachers had to use MathCloud in addition to the curriculum prescribed by the Ministry of Education, thereby increasing the workload of both students and teachers.

Distance Learning in Nepal
Government schools in Nepal are facing issues on quality education due to a lack of education systems for teaching and learning techniques. In addition, factors such as poor school infrastructure, facilities, and lack of refresher training for teachers are affecting the quality of education in Government and Community Schools. For these reasons, ICT in teaching and learning methods will play a major role.

According to research conducted by Kathmandu University, NSDevil and others, among nine teachers had to use MathCloud in addition to the curriculum prescribed by the Ministry of Education, thereby increasing the workload of both students and teachers.

Speakers in this session (L-R): Seunghoon Ji, General Manager at MPDA. Inc.; Yeshey Lhendup, Deputy Chief Programme Officer of the Ministry of Education in Bhutan; Bilesha Weeraratne, Research Fellow of the Institute of Policy Studies of Sri Lanka; and Purusottam Kharel, Assistant Professor at the Department of Computer Science and Engineering at Kathmandu University.
model schools, ULT (or U-Learning Training, a distance learning model for both online and offline environment) has shown to be an effective teaching and learning technology. This technology provides excellent teaching and learning process to teachers and students to improve for quality education in Nepal. Local government (municipalities) have also realized the positive outcome of this technology.

**Teacher-Led Content Development in Bangladesh**

For the first time in Bangladesh, thousands of teachers have been empowered and trained by e-learning and curriculum experts to produce digital content for multimedia classrooms. This innovation was pioneered by the Access to Information (a2i) Programme at the Prime Minister’s Office, Bangladesh, in collaboration with the Ministry of Education and Ministry of Primary and Mass Education. Teachers in Bangladesh now use multimedia classrooms, creating or assembling digital content, to transform the teaching-learning practices in schools. Teachers were trained to develop content on their phone, allowing easy access to ICT driven content while simultaneously empowering teachers.

The learning environment has been enjoyable and sustainable. After training, teachers use their multimedia skills, thereby increasing their confidence. Teachers receive incentives as the system automatically selects the three best teachers each week based on how they use the portal. An annual multimedia content competition is held where the best content creator is chosen, and is referred to as "ICT for Education Ambassadors."

**Transforming Education in Korea with ICT**

EDUNET is the first educational portal service in Korea. It enables teachers and students to have open and free access to 500,000 educational contents. It includes video lectures and recordings of exemplary classes, and enables teachers to share resources and information with their peers. The digital textbook is another innovative education service delivery which promotes self-directed learning for students.

The National Education Information System also streamlines the data collection process through digital form, which help policy makers to make sound decision. Korea Education and Research Information Service (KERIS) supports innovative ICT-integrated classroom project in 15 countries from 2011 by sharing Korean development experiences in ICT for education.
Despite significant improvements in access to education at all levels in the region, millions of school-aged children are either not in school or leaving school with insufficient skills. Research shows that, more than the quantity of education, the quality of education is much more closely associated with economic growth.

SDG 4 emphasizes “ensuring inclusive and equitable quality education and promoting life-long learning opportunities for all”. This provides a major opportunity for collaborating with partners, traditional and non-traditional, to deepen learning at all levels. Moreover, without appropriate technology, it may not be possible to scale up quality education at reasonable costs.

Guided by SDG 4 and its associated Framework for Action and the Regional Strategy for Using ICT to Facilitate the Achievement of SDG4, UNESCO Bangkok is providing technical assistance to Asia-Pacific member states in effectively positioning ICT to facilitate the achievement of SDG 4. South Asia is one of the priorities for UNESCO Bangkok, given the educational challenges faced by many of the countries, as well as the clear potential of ICT in education.

UNESCO’s Strategic Priorities

- Policy and strategic planning for systematic use of ICT
- Priority areas from Regional Strategy: Secondary, TVET and higher education for skills development
- Priority areas identified by South Asia delegates at AMFIE 2017: quality of teaching, learner-centered digital resources
- Promoting South Asian countries for regional and global sharing platforms.

There is a structured method where ADB and UNESCO Bangkok assist the transformational process in decision making. A masterplan focuses on the problem that needs to be solved. Preparation of ICT education masterplan can be an effective instrument for South Asian countries to identify key areas that require policy attention. The following action plans are developed as a potential future course of measures.

**Bangladesh**
Bangladesh participants considered it important to prepare a competency framework and engage in teacher development programs until 2023. An ICT environment for teaching and learning has been identified as integral component of Bangladesh’s vision for the future. A new ICT in education masterplan or policy is expected to be developed by 2021.

**Bhutan**
The focus of participants from Bhutan was to develop relevant skills to use digital resources, infrastructure and connectivity. Digital textbooks could be a major initiative for the next five-year masterplan beginning in July 2018. The participants also stressed visions of capacity building and enhancing skills in the learning platform.

**India**
Participants from India underscored quality e-content while developing capacities for teachers by 2021. Continuous professional development of teachers in ICT education and subject teaching is viewed as essential in improving education in India. A project monitoring unit to look at other factors influencing policy and implementation is also expected to be set up.
Maldives
The existing masterplan is set to end in 2018. The effectiveness of the masterplan will be reviewed and a separate policy for ICT in education will be developed in a year. The participants from Maldives considered teacher competency framework as a priority area due to digital schooling. There is a move towards developing plans for short- and long-term pre-service teacher facilities. Maldives is looking for developing partnerships with other countries and organizations.

Nepal
Nepal participants identified their key priority areas as skill development and teacher education. A new masterplan for ICT education will be created based on a survey conducted in 2013 in relation to connectivity, computers and electricity. The participants also pointed out the need to address accessible internet connectivity.

Sri Lanka
Sri Lanka is in the process of developing a masterplan with a focus on enhancing digital content and human resource development. Sri Lanka aims to create a platform for digital resources, such as textbook. The masterplan will be developed in consultation with UNESCO Bangkok and ADB.