Dear readers,

The issue of the digital divide in ICT in Education persists in many contexts and often exacerbates already existing socio-economic inequalities. The Incheon Declaration highlights the urgent need for promoting lifelong learning and education that leaves no one behind, focusing on equity and inclusion, as well as quality. Moreover, the Qingdao Declaration states that relevant and responsive digital learning environments should be in place in order to utilize ICT in diverse ways, providing various learning pathways for all. In fact, ICT can be an enabler for lifelong learning for all by providing diverse paths if only ICT is equally available for all. In this regard, this month’s newsletter issue focuses on digital equity – pressing issues, challenges and recent efforts to mitigate the digital divide in the Asia-Pacific region.

We hope you enjoy reading this edition!

Please let us know if you have any comments or suggestions.

**Highlights:**

Digital Equity as an Imperative for the ICT Ecosystem (by UNESCO Bangkok, ICT in Education)

This article underlines the urgency and attention required to address the grand challenge of the digital inequality persisting throughout the world, most often in developing countries, in order to unleash the full potential of ICT and education.

The key role of ICT in development has been widely accepted in the inception of the Millennium Development Goals (MDGs), where Target 8 states that “in cooperation with the private sector, make available the benefits of new technologies, especially information and communications” (United Nations, 2000; 2012). Similarly, the use of ICT in education can “help individuals to compete in a global economy by creating a skilled work force and facilitating social mobility” (UNESCO UIS, 2014). In 2005, the Plan of Action of the World Summit on the Information Society (WSIS) included two targets which are related to education: connecting all primary and secondary schools to ICT (Target 2), and adapting all primary and secondary curricula to meet the challenges of the information society (Target 7).
Significant progress has been made towards achieving the abovementioned targets, as reflected in the exponential growth of the number of people connected to the Internet. From 400 million in the year 2000, the number of Internet users will balloon to an estimated 3.2 billion by the end of 2015 (ITU, 2015). Advancements in telecommunications have made it possible to extend Internet coverage rapidly and even into the rural areas. However, despite the rapid growth of the online population across the world from 2000 to 2015 as shown in Figure 1, only 41% of total population in developing countries are connected in 2015, while 83% in developed countries are connected, let alone the striking fact that the mere 9.5% are connected in LDCs.

![Figure 1](image)

The UNESCO Institute for Statistics (UIS) also came up with an analysis of e-readiness of 30 Asian countries, examining e-readiness in terms of policy, curriculum, and basic infrastructure (electrical and telecommunication capacity; numbers of computers, computer laboratories, ICT support services and Internet). The report reveals that the levels of ICT use in education remain uneven in the region; while some countries excel in ICT-assisted instruction and have the latest ICT infrastructure, the same cannot be said for majority of Asia-Pacific countries, where ICT in education is limited to the privileged few. The ‘internal digital divide’ is also a cause for concern, where only urban centers “quickly adopt ICT while it remains out of reach for rural and remote regions” (UNESCO UIS, 2014). It is also notable how there is a ‘divide’ when it comes to deploying ICTs to schools between developed and developing countries, as developed countries have moved away from computer laboratories and on to technology enhanced classrooms, while developing countries still stick to the laboratory model.
Digital equity has become all the more imperative in the Qingdao Declaration, the outcome document of the International Conference on ICT and post-2015 Education, where countries in Asia and the Pacific have articulated the need to use ICT in education, particularly in “strengthening dissemination, information access, quality and effective learning, and more efficient service provision.” The same Declaration also includes the renewal of the commitment to “unleash the full potential of ICT for education and for achieving the Sustainable Development Goals (SDGs).”

As much as setting up basic ICT infrastructure and equipment is essential for digital equity, it is only part of the entire ICT ecosystem that requires attention. ICT can only truly contribute to education if a solid foundation on technology, content, and pedagogy has been laid, without which unprepared teachers and learners would be further marginalized. Additionally, cooperation among countries in the region can contribute towards bridging the digital divide. As the Incheon Declaration of the World Education Forum 2015 calls for “strong global and regional collaboration, cooperation, coordination”, countries in the region have an opportunity to work together for digital equity. Leading countries in ICT in education can provide support to countries who are lagging behind, not just in the form of funding for infrastructure, but also in sharing experiences and lessons learned in developing as well as in implementing policies that maximize the power of ICT in enhancing teaching and learning without posing digital inequity within and between countries.

As this newsletter aims to highlight the importance of addressing the digital gap and the persisting inequalities, this issue will feature an article of the Thematic Working Group 3 for the EDUsummIT 2015, a scholarly meeting to be co-organized with UNESCO Bangkok in September 2015. The article focuses on the essential conditions for technology-based learning through various case studies, addressing gaps and promoting equity in education. Additionally, the Programmes and Projects section will share the recent training events that UNESCO Bangkok organized in Nepal and Philippines on competency-based ICT teacher training reforms. The eBilim Mobile Digital Library project article highlights innovative ways that rural and remote communities can be reached and provided with educational and digital resources in the mountainous regions of the Kyrgyz Republic. The News and Events offers a few of the upcoming conferences in Thailand and Singapore, such as EDUsummIT, or the OECD-Singapore Conference on Higher Education Futures, as well as a conference on e-Learning. The Resources section offers some innovative projects and approaches to addressing the issue of the “information-poor” youth and communities by focusing on the importance of libraries as well as hands on experience through technology and mentors. Additionally, a resource site of best practices is featured with the shared approaches on how to improve and disseminate good practices about digital literacy. Finally, in the new publications, UNESCO Bangkok reports share the country case studies from the Asia-Pacific region on the achievements and challenges in light of the EFA goals, as well as the ITU ICT Facts & Figures for 2015 on the remaining gaps, achievements and the digital divide.

References


Evidence shows that LCRs ['learner-to-computer connected'] are generally decreasing across many countries, while school Internet rates are increasing – both generally and for fixed broadband specifically. However, change is not uniform and occurs at different rates in different countries. Typically, countries that have strong policies and set targets for ICT in education with high-level government [officials] and sector-wide support show the most rapid change (ITU, 2014, p. 75)."

“While in general it must be seen as advantageous to have more computers for fewer students, it is not clear what the ideal ratio might be. This will depend a lot on national circumstances [or local contexts] and on how computers are used; it is suggested that more research be conducted in respect to this [ratio].” (Ib.)

In light of technological developments and the expected opportunities for the education sector, the issue of the digital inequity and divide becomes critical. One may sum this up by saying: The rich get
richer. For instance, countries where citizens have a higher income tend to have lower Internet connectivity costs. This fact is being highlighted by Davis and colleagues (2015) in their own EDUsummIT discussion paper on Smart Partnerships. Applied to classroom dynamics, it means that the most competent teachers tend to engage students with ICTs in ways leading to better learning outcomes. And the more curious and participative students are those more inclined to use ICTs for learning and academic achievement. Research (Becker & Riel, 2000; Tamim et al., 2011) persistently states that the teacher’s pedagogy makes the difference: technology used as « support for cognition » has greater effect than technology used for « presentation of content ». Therefore, bringing the technology and connectivity to schools, despite the great funds, time and energy it requires, is only part of the equation. In other words, context, including curriculum, classroom routines, teacher roles, and evaluation practices, cannot be overlooked in developed as well as in developing contexts.

The issue is even greater in developing contexts as there is less resources available to invest in digital technology acquisition, and teacher education tends to be less informed by research. Internet resources help teachers enrich their lessons and students to push further ahead in their inquiries (MIT, 2015). However, MIT website is primarily used by North American teachers and students (44%), followed by Asia-Pacific (20%), and European countries (17%). Worldwide students and self-learners are the main users (85%). Open educational resources (OERs) are multiplying for all education levels, and the hope is that they will benefit formal and informal education in developing countries. Meanwhile, it is our collective moral obligation to uncover the dynamics of what is required for ICT use, and especially OERs, to make a real difference when it comes to teachers’ and students’ learning outcomes.

The International Society for Technology in Education (ISTE, 2009) has published, after extensive consultation, essential conditions for technology-enhanced learning (TEL). Referring to these conditions, the members of the Thematic Working Group 4 (TWG4) have written to this point eleven (11) short case studies for the EDUsummIT 2015 on the theme of Addressing Gaps and Promoting Educational Equity. The following lines demonstrate the diversity of creative ways of ensuring the presence of the essential conditions in a given context:

- **Shared vision.** Partners’ visions ranged from “providing colleges better access to information and communications technology in order to improve teaching and learning” (Senegal) to “providing teachers and teacher educators with a collection of curated open and free digital contents as well as productivity tools which are primarily developed for countries with low internet penetration (UNESCO).

- **Empowered leaders.** This condition ranges from a focus on technology expertise to social positioning for implementing effective change: “The principals, the teachers and the students were regarded as the focus in the development of the SELTAS, an e-learning platform.”(HK); “Principals and teachers from Native American schools, faculty from two universities and leaders from U.S. Dept. of Interior” (USA).

- **Implementation planning.** Often focused on learning ICTs and/or learning with ICTs, planning involved working with partners as diverse as “teacher educators” and “Ministry of Education” (Israel), secondary schools (Saint Viateur and Sig-Noghin), “la maison des savoirs” (the house of knowledge) (Burkina Faso), and “dedicated personnel provid[ing] links and possible support at local and national levels” (UK).

- **Equitable access.** “An ipad for each teacher as well as a wide angle camera for synchronous video sessions” (Israel); “laptops (in trollies for mobile classes) or desk computer, … and a frame for internet access” (Senegal); access through “a cybercenter of the municipality [with] fluctuating broadband access to Internet” (Burkina Faso); “considering the status of ICT infrastructure in the region’s least developed countries … CD-ROMs or USB flash drives are used as the primary
medium for distributing the resources so that these can be installed on desktop computers and laptops without the need of internet connectivity.” (UNESCO).

- **Skilled personnel.** The presence of the university (research & teaching) stands out in more than half the cases.

- **Ongoing professional development.** Onsite training dominates. Onsite activities are either combined with online activities, or they complement online training activities. Community of practice/professional learning community and networks are new forms of professional development being used.

- **Technical support.** This condition is evolving in two ways: teachers take a greater role at the technical level and online support is gaining ground.

- **Student-centered learning.** The orientation of innovative practice is clearly toward student-centered learning in all of the countries.

- **Assessment and evaluation.** The evaluation of leadership is overlooked. Student learning was assessed the most, followed by teaching, including resources for teaching and learning.

- **Engaged communities.** Different players from the community may be involved in order to implement a project: “Parents and school teachers [to] be given a monthly debriefing of the student’s progress” (Israel); “parents” (Hong Kong); “student/ teacher/business community” (Australia); “parents, local third-parties, and businesses” (Canada).

The ten above conditions were perceived by the writers of the cases as present at a level of 70% or higher (maximum 83%). The four less present conditions were also reflected by a variety of innovative practices:

- **Consistent and adequate funding.** During a project, “all phases” (Burkina Faso) were financed, and later “participating schools in the network are seeking further funding opportunity” (Hong Kong). “The use of freeware and shareware, and ubiquitous hardware and access whenever possible” (Australia). Funding may come from a “university” or the private enterprise (UNESCO).

- **Curriculum framework.** “It is in the curriculum framework but brings new ideas and a new pedagogy” (Israel); “culturally responsive curriculum that embedded the resident cultural knowledge and practices into the local curriculum (USA).

- **Support policies.** “The project is a response to the “one curriculum for all” principle put forward by the Curriculum Development Council” (Hong Kong); “Some Resource Distribution and Training Centres have incorporated UNESCO resources in their regular teacher education curriculum as well as other external training programme (UNESCO).

- **Supportive external context.** “The project received the support of the team [from a distant university] (Burkina Faso); “a research centre from a local university … enthusiastic special schools, and received funding from the government. External experts from overseas were also involved” (Hong Kong); “official authorities support the program ideology. Third party organizations are getting involved” (Israel); “partners such as Microsoft or Intel or national companies operating in the ICT sector” (Senegal); “local organizations” (UNESCO).

To sum up, the ISTE essential conditions are present at a maximum of 85% in the cases written by TGW4 members. Given that these cases may be considered as exemplary local practices in developed and developing countries, this means that ICT pioneers and early adopters have engaged in a mammoth task, one that requires partnerships and collaboration within and beyond local education systems. It is fortunate that the Internet, its users as well as its tools offer so many opportunities for collaborative educational endeavours. While developed countries must move beyond the boundaries of the “silos” of the
socio-technical infrastructures in place, collaborative ventures and structures are likely to help developing countries to make a giant leap. Provided that digital equity is a shared value, partnerships and smart collaborations can bring us closer together.

References


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Note: The opinions expressed in the articles included in this newsletter are those of the authors and editors, and do not necessarily reflect the policies or views of UNESCO, nor of any particular Division or Office.

Programmes and Projects:

National Workshop on Supporting Competency-based Teacher Training Reforms to Facilitate ICT-Pedagogy Integration in the Philippines (21-22 July 2015, Quezon City, Philippines)
This workshop was organized by UNESCO Bangkok, CHED and SEAMEO INNOTECH, bringing together officials, ICT experts, representatives from the Department of Education and TEIs in order to build on and improve the existing ICT competencies.
As a tool to enhance instruction in the Philippines, ICT is used by teachers across learning areas to make learning more interesting and effective. This expectation is reflected in the country’s National Competency-Based Teacher Standards (NCBTS), an integrated professional development framework that defines the different dimensions of effective teaching. Adopted in 2004, the NCBTS has been and remains the core of the Department of Education’s Teacher Education Development Program and has been adopted by both teacher education institutions (TEIs) throughout the country and the Professional Regulation Commission, which is in charge of the country’s licensure exam for teachers.

However, in light of recent massive education reforms driven by the country’s shift to the K to 12 basic education program and adoption of the outcomes-based approach to tertiary education, there is an urgent need to revisit and revise the ICT competencies within NCBTS, especially in the face of rapidly evolving ICT and other digital technologies. UNESCO Bangkok’s KFIT-funded project on “Supporting Competency-Based Teacher-Training Reforms” therefore comes at an opportune time, as it presents the Philippines’ Commission on Higher Education (CHED) with a chance to meet this need.

As part of the Philippine implementation of the project, UNESCO Bangkok, CHED and the Southeast Asian Ministers of Education Organization Regional Center for Educational Innovation and Technology (SEAMEO INNOTECH) teamed up to organize the 1st National Workshop on Supporting Competency-Based Teacher-Training Reforms to Facilitate ICT-Pedagogy Integration in the Philippines. Held last 21-22 July 2015, the workshop brought together CHED officials, ICT experts, members from various CHED technical panels, representatives from the Department of Education, and TEI representatives to enhance the ICT competencies within the current NCBTS and integrate these into a CHED memorandum order on the Policies, Standards and Guidelines (PSGs) for ICT-Pedagogy Integration in Undergraduate Teacher Education in the country. Session workshops were facilitated mainly by UNESCO Bangkok and the CHED task force formed for the Philippine phase of the project.

Participants came up with draft recommendations for integrating ICT and ICT Pedagogy in pre-service teacher education which, in turn, will be considered by members of the CHED task force as they finalize the ICT-Pedagogy Integration PSGs for undergraduate teacher education curriculum this month. Once promulgated, the PSGs will serve as a guide for CHED in revising the country’s Educational Technology courses.

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National Workshop held by UNESCO and NCED on ICT Competency Development in Education
(31 July-2 August 2015, Godovari, Nepal)

This national workshop organized by UNESCO and the National Center for Educational Development (NCED) involved policy makers, teachers and experts to engage in discussions and participate in sessions to identify approaches towards developing competency standards and performance indicators for ICT in Education.

Access to ICT in remote communities: The eBilim Mobile Digital Library Project, Naryn, Kyrgyz Republic

This article provides an overview of the project conducted by the University of Central Asia in the pursuit of minimizing the rural-urban digital and knowledge gap. A refurbished minibus equipped with educational resources and a digital database reaches 15 remote communities in the Naryn province of the Kyrgyz Republic.

In Kyrgyzstan, socio-economic disparities between urban and rural areas are considerable, particularly with regard to access to knowledge, information and communication technology (ICT). These disparities are exacerbated in remote mountain areas because of their isolated location. Residents of remote mountain areas have limited access to media, books and other information resources.

Despite the fact that almost all remote mountain communities of Kyrgyzstan have schools and libraries, they are mostly poorly equipped with books, information resources and lack modern technologies. Due to a lack of funds for maintaining buildings, infrastructure, and acquiring new collections, the libraries are poorly visited and hardly perceived as a resource for learning and access to knowledge.

The eBilim Mobile Digital Library was designed to bring new information resources to communities in 15 remote villages in Naryn, Ak-Talaa and At-Bashy districts of Naryn province in Kyrgyz Republic. ‘Bilim’ means knowledge in the Kyrgyz language and ‘e’ indicates electronic media. The project mainly aims at testing the dissemination of knowledge and information in remote rural areas, to link institutions and organizations interested in improving access to information across the rural-urban development gap, and at the same to use the tours to remote villages for generating knowledge about information needs, challenges and opportunities in the visited communities. The project is implemented by the Mountain Societies Research Institute (MSRI) of the University of Central Asia (UCA) with financial support from the The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ).

The library is housed in a refurbished minibus equipped with books, laptops and a digital database of over 3000 text, audio and video resources in a variety of subjects. This information is available for printing and downloading to USBs, DVDs, cell phones and MP3 players. The database contains information in a broad range of subjects, including agriculture, education, entertainment, local governance, health, literature as well as learning resources for teachers and children. In its first year of operation, the eBilim project reached out to more than
4000 users (adults and children), a majority of them being high school students, teachers or staff employed in village and sub-district administration. The concept of a travelling bus as a vehicle for information dissemination has proven to be an effective tool for reaching marginalized and remote communities and connecting them to locally relevant and up-to-date information.

By taking into account nomadic traditions of indigenous people in the Naryn region, the eBilim project was adapted to the needs of people and conducted additional extended tours to the Jailoo summer pastures during summer. These tours offered herders and their families access to information and learning opportunities. Open-air film screenings of Kyrgyz movies also took place. By visiting the summer pastures, eBilim extended its access, gaining a new audience, with different information needs.

A broad variety of feedback was collected from the users in the villages and the summer pastures to evaluate information needs and required resources. This feedback can make a difference to constantly improve, extend and update the available information in the database and render it more suitable and relevant to communities. Next steps involve the project to further extend its reach and make the valuable multimedia information available to other communities across Kyrgyzstan. UCA will also use its eBilim project as a coordinating platform, involving organizations specialized in agriculture, education, local governance and health in hands-on activities tailored to increase access to practical knowledge and information in remote mountain communities.

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News and Events:

- **EDUsummIT 2015 (14-15 September 2015, Bangkok, Thailand)**
  This event, organized in association with prominent international and national organizations, gathers researchers, policy-makers and educators in supporting the effective integration of Information Technology in education.

- **The OECD-Singapore Conference on Higher Education Futures (14-15 October 2015, Singapore)**
  The event will focus on higher education, the rise of higher education in Asia, challenges to traditional modes of education, and how higher education can stay relevant in the face of resource challenges. The Conference will bring together some 500 participants from over 40 countries. In addition to the main event, there are satellite events on 13 and 16 October and post-conference activities on 16 October.

- **5th Annual International Conference on Education and e-Learning (Bangkok, Thailand, 14-15 September 2015)**
  This conference aims to explore more flexible and accessible modes of education to bridge the gap of learning across borders by exploring the potential of e-learning.

- **#PurpleMySchool Campaign**
  Is your school Purple? Go Purple to support safe spaces for LGBTI students across Asia & the Pacific.
  UNESCO Bangkok, the United Nations Development Programme (UNDP) and Being LGBTI in Asia encourage students, teachers, and parents to join the #PurpleMySchool campaign aimed at creating safe spaces for LGBTI youth in educational settings throughout the region. People can show their support for
LGBTI learners by wearing, doing, or making something purple. Photos can be uploaded to our Facebook page and website.

**Resources:**

- **Global Libraries: Opening a World of Information and Opportunities**
  The Bill & Melinda Gates Foundation Global Libraries programme aims to provide the 1 billion “information-poor” people with free access to computers and the Internet by locating public libraries at the centre of communities. The programme also helps public libraries around the world define local needs and training for librarians.

- **The Intel Computer Clubhouse Network**
  This is an after-school learning programme that enables youth in underserved communities to access the latest technology and work with adult mentors to experience professional hardware and software, develop technical fluency, and build skills.

- **The Digital Literacy “Best Practices”**
  This site provides resources about best practices on how to improve and disseminate successful approaches and practices about digital literacy.

**New Publications:**

- **Country Case Studies on Promising EFA Practices in the Asia-Pacific Region**
  In light of the 2015 deadline for the Education for All (EFA) goals, Asia-Pacific countries, such as Bangladesh, Cambodia, India, Indonesia and the Philippines share their achievements, enabling factors, challenges, promising practices as well as sustainability aspects.

- **The Economic Cost of Out-of-School Children in Southeast Asia**
  This publication targets out-of-school children and looks at the benefits of primary education to help education policy makers understand the significant economic incentives of including these populations in the seven Southeast Asian countries.

- **ICT Facts & Figures 2015**
  This ITU factsheet provides information on the remaining ICT gaps, achievements in the past 15 years, the digital divide for 2015, and more.

**Next issue:** The September issue will focus on the theme of Cyberwellness (promoting children’s safe, effective and responsible use of ICT). If our readers are interested in contributing to this edition, please do not hesitate to contact us.

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