ASSISTIVE TECHNOLOGY IN EDUCATION
November 2014 UNESCO Bangkok Office

Dear readers,

Since 1992, proclaimed by the United National General Assembly, the International Day of Persons with Disabilities is on December 3rd. Each year has a specific theme, and this year’s it is “Sustainable Development: The Promise of Technology.”

Pertinently, this month’s newsletter will focus on Assistive Technology in Education. One of the strongest arguments in the debate for the use of technology in education has included the factors of access, inclusiveness and flexibility toward a learner-centered pedagogy. Learners in remote areas can now find opportunities to learn from their own homes or schools. Moreover, learners with special needs can now access online content and other tools to have the availability of and the chance to learn from their comfort spaces, whether national inclusive policies exist or are lacking in their respective locations. Beyond access, these students can also use technology in ways that serves them best in terms of their specific learning or physical needs and goals. Last but not least, assistive technology can also provide opportunities for lifelong learning, thus being useful to all kinds of users.

Although assistive technology is only at its nascent potential today, it does provide a hopeful prospect for what the future holds for the fields of education and technology, as well as our learners.

We hope that you enjoy reading this edition!

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

Highlights:

- **Assistive Technologies in Education** (by UNESCO Bangkok, ICT in Education)
  An introduction to assistive technologies, their capabilities, but also the accompanied pitfalls in access, quality and assessment, especially in developing contexts.

With over 500 million persons with disabilities worldwide, making up 10% of the global population, most of these persons live in developing countries. The number continues to grow in relation to the rapid increase of the global population. Some of the other contributing factors include living in disaster or conflict areas, as well as poor medical services. Additionally, “more than half of all people with disabilities in developing countries live in extreme poverty.” Moreover, about 80% of the disabled persons live in rural areas, where the availability of necessary services is even scarcer. The physical barriers are accompanied by the social ones, leading to further segregation and insecurity. Too often, the disabled are excluded from their communities, as well as to access to education and other services. In these contexts, disabilities and poverty become interrelated. Here, “disability not only is an effect of poverty but also a cause.” By one estimate, 93 million children under the age of 14, or 5.1% of the world’s children, were living with a ‘moderate or severe disability’ in 2004. Of these, 13 million, or 0.7% of the world’s children, experience severe disabilities. According to the World Health Survey, in 14 or 15 of low and middle-income countries, people of working age with disabilities were about one-third less likely to have completed primary school. For example, in Bangladesh, 30% of people with disabilities had...
completed primary school, compared with 48% of those with no disabilities. The corresponding shares were 43% and 57% in Zambia, 56% and 72% in Paraguay. Additionally, different countries have varying definitions of disabilities. This factor contributes to the fact that little data is available and varies depending on the definition. Information on the results of assistive technologies is insufficient, both in developed and developing contexts (Borg, 2011; UNESCO, 2014; United Nations Enable, n.d.).

As the UN General Assembly proclaimed in 1992 that the International Day of Persons with Disabilities will be celebrated on December 3rd, this day has aimed to “promote an understanding of disability issues and mobilize support for the dignity, rights and well-being of persons with disabilities. It also seeks to increase awareness of gains to be derived from the integration of persons with disabilities in every aspect of political, social, economic and cultural life.” Since the founding days of the United Nations, this organization has been based “on the principle of equality for all” as well as social justice. It has aimed to promote and foster active participation of persons with disabilities, helping shift their role from simply accepting the available resources and circumstances to actively realizing and revealing their independent strengths, abilities and potential. Therefore, persons with disabilities are entitled to all of the basic human rights. The Universal Declaration of Human Rights provides each person with “the right to security in the even of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control”. In addition to the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights, the Convention on the Rights of Persons with Disabilities, adopted in 2006, further contributes to understanding and approaching these groups in an equalizing, inclusive and just manner (United Nations Enable, n.d.; United Nations Enable, 2006).

The many choices of technological devices capable of helping improve a person’s quality of life, referred to as assistive technology, have further enhanced and reiterated the potential of technologies in improving our lives. These tools can be chosen according to the person’s specific needs, environments and purposes, serving a large array of users. Furthermore, these technologies have contributed to the increasing independence of the persons with special needs. The use of assistive technologies can help diminish or remove existing physical, as well as the social barriers and discrimination against the disabled people by helping and empowering them to be active participants of their communities. It promotes the idea of equality among all, while emphasizing the diversity of our skills and abilities. Assistive technologies can be used by anyone, whatever their physical or mental capacities may be. However, as with all technologies, it is not about the device and provision as much as about the proper and effective use. It has to involve a specifically oriented plan to bring about positive and desired results.
That is why it is important to think of assistive technologies not only as technological tools, but also as a model that involves devices as well as systems that can contribute to a person’s positive quality of life.

Another important definition to consider is what one means by the ‘quality of life’ and how to measure that. As there are many dimensions to that factor, it can include anything from social interactions, independence, rights, or employability to personal growth and fulfillment as well as emotional and physical wellbeing (Lancioni, Sigafoos, O’Reilly, & Singh, 2013; Hersh & Johnson, 2008; Borg, 2011).

The possibilities of assistive technologies in education can stretch beyond access to education, toward further enhancement of the learning experience. Some of such innovative and promising examples include identifying the strengths and abilities of the persons with disabilities and utilizing them advantageously in the job market; optimizing learning paths for individuals' needs based on routine and behavioral data (or learning analytics); using 3D screens and educational applications to engage and involve students; using music to uncover students' hidden talents; or developing innovative and specialized curriculum. With the increasing number of various technological devices present in classrooms today, teachers can develop an array of choices for specific student needs, while students have more opportunities to participate and interact with these tools in a personal manner. These interactions can also open the door to collaboration and dialogue among various stakeholders such as parents, researchers, teachers as well as students helping to improve and enhance their educational experiences. However, most of the disabled persons today do not have the means or access to assistive technologies. Moreover, for the development and availability of appropriate content, teachers need to receive proper training in order to be able to provide these choices. Although professional development is increasing in this domain in many developed countries, the developing world has yet to focus on this important factor for teachers (O’Connell, Freed, & Rothberg, 2010).

Some of the reasons for the lack of attention given to monitoring and assessment of the impact of assistive technologies include the fact that most believe them to be undeniable in improving one’s experience of life, accompanied by a predominant focus on the technology instead of the interaction between the user and the device. It is also important to conduct assessment of the outcomes in order to inform sound policy decision-making. It might be useful to develop a global benchmark or assessment procedures to be used by various countries in different languages, while sustaining the contextual models for planning and implementation. Relevance to the users is also an important key factor that should be considered in greater extent in future research and evaluation (Hersh & Johnson, 2008).

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References:


When the Miracle Does Not Arrive: The Future of Inclusive Education in Developing Countries
(by Michael Goldrick)

Written by Michael Goldrick, a European-funded researcher in the area of learning technologies, this article explores the concept of assistive technologies, potential, trends, and challenges, in both developed and developing contexts. It also considers assistive technologies beyond their traditional use, and instead, as a beneficial tool for all learners.

Over the last two decades, there have been many innovative changes to inclusive education policy and practice. Attempts however to put each person, regardless of age, sex, background or disability, at the centre of educational pedagogy have not been easy (Goldrick, 2010).

For instance, in some of the earliest attempts at implementing this vision in developed countries, many educators felt that the political ideology of widening participation made a promise that was not feasible. This doubt was inevitably proved to be true when “the miracle did not arrive” (Schütze and Slowey, 2000);

If each child is unique, and each requires a specific pedagogical approach appropriate to him or her and to no other, the construction of an all embracing pedagogy or general principles of teaching become an impossibility.

(Simon, 2005, p18)

Instances of such challenges occurred early on in the United Kingdom and Europe when the promise of mainstreaming necessitated the use of teacher assistants as an ‘extra pair of hands’ within the classroom (Moon, Ben-Peretz and Brown, 2000).

Underpinning these early challenges was the disconnection between international human rights, localised policies and in-class pedagogy. In many cases, questions of what student supports are needed...
are unfortunately overshadowed by economic factors that limit, and sometimes dilute, the spirit of inclusive education. This gap from policy to practice is universally experienced in both developed and developing countries and leads policy makers and educators alike to question how equity of education can be provided.

In addressing this issue of appropriate supports, many developing countries adopted the practice of using assistive technologies to improve the ability for students to self-direct their learning. Until quite recently, many of these assistive technologies were quite expensive and designed solely to support students with disabilities or specific learning difficulties. However, in recent times there has been a fundamental shift in the design of technologies. In fact, the distinction between assistive technologies and learning technologies is one which is becoming increasingly blurred as learning technologists and educators move towards more universally applicable solutions (EDUCAUSE, 2009; Goldrick, Stevns and Christensen, 2014,).

This trend can perhaps be best illustrated in the area of alternative formatting, where there is a growing trend to move away from the creation of DAISY books towards the production of more inclusive formats such as E-books, which have much more potential as a reflowable way to engage with written documents. This is noteworthy, both in developed countries where the trend to use mobile technologies is a fashionable choice, and in developing countries where internet infrastructure can be limited and unstable, leaving little alternatives for students to use their own handheld devices (Grimus, Ebner and Holzinger, 2013).

The growing use of such mainstream solutions reinforces the argument that whilst for sensory and motor disabilities, the term assistive technology is accurate, there are a number of emerging free technologies which are beneficial to all learners in education. Some examples of these are self-service formatting solutions from RoboBraille (http://www.robobraille.org/) and the focused reading technology with optimal recognition point, Spritz (http://www.spritzinc.com/).

From a pedagogic perspective, learning technologies such as RoboBraille, Spritz and other technologies such as mind-maps, audio recording software, and note-taking technology can be used with minimal instruction to help all students become more focused and flexible when interacting and creating learning materials. With this said however, when considering the further development of inclusive education practices in developing countries, it is important to question how such technologies can be used effectively as part of a strategic plan.

It is not enough to simply provide technologies to students in developing countries. For inclusive education to be meaningful, research needs to be undertaken locally to determine, how they are being used, how they interconnect with teaching and learning strategies and what impact they have on the lives of the students using them. There is no simple fix or miracle for the global implementation of inclusive education, only cooperation, reflection and the will to embrace change.

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Sub-regional Corner: South Asia

South Asia ICT and Education Indicators (by UNESCO Bangkok, ICT in Education) This article provides an overview of South Asia’s demographics, education challenges and improvements, and key ICT indicators.

The region of South Asia is very diverse and represents some of the most populated countries in the world. It has the highest number of children under the age of 5, as well as youth (15-24). Despite the many efforts, around 13 million children continue to be out of school. The literacy rate among adults is 62.9%, and among youth, 80.6%. South Asia has “the highest inequality in education”, at 42%. The gender gap is quite extensive and the largest in the world (at 17%), especially in education (at 15%), and remains almost unchanged. The majority of illiterate youth are women, and although the number of out-of-school girls has dropped, it is still at 59%. Around 44.4 % of people in the region live on $1.25-$2.50 a day, placing South Asia in the top globally for people living just above the poverty line (UNESCO, 2014; UNESCO, 2009; UNDP, 2014; The World Bank, 2014; Dundar, Beteille, Riboud, & Deolalikar, 2014).

The regions of South and West Asia have seen major progress: in literacy rates for adults, the numbers have skyrocketed (from 47% to 63%). In terms of access to education, progress has also been evident, more than doubling in the gross enrolment ratio in 2011. For example, Sri Lanka has achieved nearly universal primary education some time ago.
However, the many barriers to accessing education are still existent in the region, especially in the in- or post-conflict areas. Quality of education as well as skill acquisition and measurable learning outcomes are of a large concern. One of the exacerbating factors that is particular to South Asia is the total number of students, which is the largest number of school age children in the world. Another factor is that these students come from a large myriad of backgrounds, whether cultural, linguistic, or socio-economic. Many of these children make up the first generation of school attendees for their families. Thus, it is very difficult to pinpoint successful strategies in dealing with such a complex context and student body (The World Bank, 2014; Dundar et al., 2014).

Despite the continuing challenges, governments of South Asian countries have allocated large portions of the budget to their education sectors. The efforts have also been made in improving school infrastructure and increasing the number of teachers. However, the number of students has also grown quite rapidly. In terms of assessment, none of the South Asian countries have taken part in the major international achievement tests (with the exception of two Indian states). The achievement results that are available show that Sri Lanka has made the most progress in learning outcomes. Many of the students are still behind their respective grade levels, both in literacy and numeracy skills. Learning outcomes seem to be unequal, making South Asia the number one region for inconsistency in achievement, especially in rural areas. Unfortunately, quality of teacher training is poor, salaries low, teacher absenteeism high, and competencies inconsistent. Although most of the countries in the region carry out classroom assessments, the need for improved guidelines, policies and resources are evident in order to monitor the quality and progress. Most importantly, commitment is key (The World Bank, 2014; Dundar et al., 2014).

**Key Sub-Regional ICT Indicators**
<table>
<thead>
<tr>
<th>Country</th>
<th>Learners-to-computer ratio (for pedagogical purposes)</th>
<th>Educational institutions with electricity at primary level (%)</th>
<th>Educational institutions with computer laboratories at primary level (%)</th>
<th>Educational institutions with access to the Internet at primary level (%)</th>
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<tr>
<td></td>
<td>Primary Total</td>
<td>Secondary Total</td>
<td>Total</td>
<td>Public</td>
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<td>India</td>
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<td>17</td>
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<td>Nepal</td>
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<td>378**</td>
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<td>61</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>n/a d</td>
<td>n/a</td>
<td>82</td>
<td>82 d</td>
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N/a Data not available
X[y] Data included in column [y] of the table
** UIS estimation
- Magnitude nil or negligible
n Data refer to the school year n years prior to the reference year
d Refers to ISCED 1-3
Independent secondary schools are not included

ICT Development Index (IDI), 2012 and 2013

<table>
<thead>
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<td>Bangladesh</td>
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<td>129</td>
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<tr>
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<td>85</td>
<td>4.71</td>
<td>82</td>
<td>4.50</td>
<td>-3</td>
</tr>
<tr>
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<td>2.37</td>
<td>134</td>
<td>2.20</td>
<td>3</td>
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<tr>
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<tr>
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<td>113</td>
<td>3.31</td>
<td>-3</td>
</tr>
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</table>

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References:


Contemporary India stands in the threshold of a vibrant knowledge society that is widely characterized by unprecedented flow of Information and Communication Technologies (ICTs), enhanced local global connectivity, economic globalization and a high representation of young in the country’s population. Though India has a knowledge-based past, its traditional social arrangement is founded on a knowledge gap based on a caste hierarchy. As such, India needs to seek opportunities to fill this gap by providing access to quality education to all segments of society.

In view of the changing trajectory of the world economy, India can no longer remain isolated as a predominantly agrarian society due to this sector’s decline. With the emerging service sector playing a dominant role and ‘make it in India’ becoming a buzz word in contemporary political vocabulary, planners now look for alternative strategies for mass education opportunities and skills development in order to put India on the fast track of economic transition. However, these goals cannot be achieved unless India commits itself to providing much needed quality education and skills to its young population, with 65% of the population below 35 years old (91% of which fall under 19 years old).

Although the World Development Report 2014 indicates that India has a 61% literacy rate among youth (15-24 years) and 63% among adults, the percentage of the population with secondary and higher levels of education is only 49% and 23% respectively, despite the fact that the number of universities increased from 103 to 664, and colleges from 3,604 to 33,023 between the years 1970 and 2012. Furthermore, literacy rates for women, ethnic, and religious minority groups have always been substantially lower than the rest of the population’s.

Although a substantial number of elite educational institutions has emerged, these alone are incapable of addressing emerging educational needs for the masses. The burden of illiteracy, low level of skills development, and lack of access to higher and professional education cannot be addressed solely by conventional educational arrangements and traditional methods. India needs alternative arrangements to promote quality education in order to break pre-existing barriers by becoming globally connected, locally relevant, and rising as a vibrant knowledge partner in the globalised world. Most significantly, this requires an integration of ICTs by digitizing the processes of imparting education and training in the country.

With India being one of the giant users of ICTs, people are now looking at using ICTs for education and skills development. ICT-enabled education has emerged to be the most viable solution not only due to
its availability at a cost effective rate, but also due to the fact that an overwhelming proportion of knowledge-seeking youth and adults are born and socialized in the e-culture.

The state and civil societies in India are now providing e-platforms and various types of ICT to deliver academic programmes to the largest segments of the population. The Government of India framed a National Mission of Education through ICTs (NMEICT) to leverage the potential of ICTs in providing high quality educational modules for learners. As part of this project, several hundred of programmes have already been made available online through the e-portal, SAKSHAT. For e-content, a Consortium for Educational Communication has been formed, involving a number of educational institutions. Virtual labs have been set up in schools with the help of the Indian Institute of Technology (IIT). Special educational programmes have also been initiated, including Talk to Teacher, Spoken Tutorials, Free and Open Resources for Education, Direct to Home educational channels, e-Yantra robotics in higher education, and educational resource planning with selected IITs and Indian Universities. Many universities and industries have taken on leading roles in generating e-content and delivering online learning modules and MOOCs, teleconferencing, radio-conferencing, web-casting to improve access to education.

However, ICT-based academic programmes in India are encountering issues of quality on the one hand, and recognition on the other. Many institutions provide e-learning programmes devoid of the quality concern, and without appropriate monitoring and evaluation mechanisms in place. Furthermore, in India, accumulated knowledge is once again put in hierarchical order, that is, education is perceived not always in terms of ‘what is learnt’, but rather ‘where it is learnt’ as well as ‘how it is learnt’.

In view of these challenges, state and civil society should play pro-active roles in demolishing this hierarchy by accepting ICTs as a medium not only for political and social campaigns, but also as a tool for mass education of ‘digital natives’ who look for opportunities to shape new India through creative engagement. India should take the opportunity to digitize the country in providing mass education and promoting equal opportunities, eventually bridging the knowledge gap.

Though India has put in place well established institutional mechanisms to monitor the progress and quality of education at all levels through multiple bodies, no institutional mechanism has been developed, as of yet, to centrally institutionalize ICT-enabled learning. Although it conventionally belongs to the domain of distance education, the Distance Education Bureau in its present form is incapable of handling the complexity of ICT-enabled learning in a globalised world. Hence, it is proposed that an autonomous national body, ‘National Council for ICT Enable Learning’, should be established with the mandate to:

1. Promote innovation in ICT-enabled learning for generation e-content for the student enroll at all levels (certificate, diploma and degree)

1. Look into the infrastructural arrangement as would be required for the propagation of ICT-enabled learning across the country

1. Monitor academic content to suffice the standard/state of knowledge as would be required for the certification of specific level of learning

1. Develop mechanisms for the standardization of evaluation of academic programs offered
1. Develop linkages with all local and national level bodies for the promotion of ICT-enabled learning so as to ensure acceptable higher quality and standard.


1. Promote mechanisms for borderless learning.

Such mechanism should come as a political commitment on the part of the state for mass production of knowledge through ICTs so that the products of these learning arrangements would own their degrees in their own right.

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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:

**‘Specialisterne’ Company**

Taken from the Ashoka publication, Thorkil Sonne, the founder of the company and an Ashoka fellow, is trying to change the way our society perceives autism, which is mainly as a disability. Instead, it could be recognized as a “competitive advantage” where autistic people can be valuable participants and leaders in the business arena and ‘specialists’, instead of ‘autistics’, in different areas. This approach focuses on the capabilities of these individuals instead of their disabilities. Additionally, the strengths that autistic people may have are very valued in the field of technology, such as attention to detail, organized work style, repetition and meticulousness. This for-profit company evaluates and hires well-performing autistic adults. For assessment, they use toys like LEGO to study and understand the capabilities of these people. This is accompanied by a training program that introduces various themes, including basic job-related skills.

**SENnet**

A network co-funded by the European Commission, SENnet, aims to conduct research on Special Education Needs (SEN) at schools, explore learning opportunities and integration of students with SEN, and provide training resources on SEN within the European Union. Here SENnet showcases around 30 short videos of various case studies with subtitles, including the theme of students with special needs.

**ICT Enhances Learning for Singapore Students With Special Needs**

Using 3D screens and motion sensors, social media and educational applications, students are involved in engaging and enjoyable classes, connected with their peers online as well as at the Asian Women’s Welfare Association school, and further supported by parents at home.

**VizZle Partners with Department of Education of the Philippines to Pilot Visual Learning Software**

VizZle and the Department of Education of the Philippines have partnered in order to address the needs of autistic students in the Manila area through the help of technology. Due to the low enrolment of students with special needs (5% of the total number), VizZle hopes to assist these families through its use. VizZle is a tool that allows teachers to develop curriculum that is specific to the needs of the users,
such as children with autism or other learning challenges, through the use of templates, audio and video materials, and visual aids. VizZle also provides resources for special needs educators.

Apple Technology for Students with Disabilities

- For dyscalculic students who have problems with Maths, one can use an iPhone/iPod to record lectures and instructions for later use. The various Mathematics related applications such as the Calculator and the Grapher can guide and aid students in remembering equations.
- For students with reading and writing disabilities, iMacs can provide the VoiceOver, a screen reader that can read the text out loud, and can be used for specific sections of the text. Another feature is converting texts into a ‘Spoken Track’, allowing the student to listen to the text from anywhere.
- For students on the autism spectrum, iPods can be used to set audio reminders to perform various tasks and not forget to have lunch, do homework, and much more.

UNESCO Bangkok Facilitates a Collaborative Teacher Education Project on Basic Assistive Technology

The “Technology for All – Nothing is Impossible” project, facilitated by UNESCO Bangkok’s Asia-Pacific Programme of Educational Innovation for Development (APEID) with the support of the Japan Funds-in-Trust (JFIT), has aimed to bring together participants from various educational institutions across Asia Pacific in order to increase awareness of students with disabilities, provide resources on basic assistive technology for teachers’ use, and providing the necessary support for learners with disabilities.

While significant progress has been made in assistive technology (AT) and there is an abundance of ICTs designed to aid learners with disabilities, several countries in Asia and the Pacific are not yet positioned to catch up with the advances in the field. The infrastructure requirements for the more advanced AT hardware and software are not yet in place among the region’s developing and least developed countries, not to mention the prohibitive financial cost of acquiring AT equipment. More importantly, a lot of work has to be done to increase teachers’ awareness of the special needs of students with disabilities, and similarly how to use even the most basic of technologies to aid the disabled learner.

Several educational institutions from Asia and the Pacific had an opportunity to address these concerns through a collaborative teacher education project on assistive technology. Named “Technology for All – Nothing is Impossible”, the project was one of three collaborative projects facilitated by UNESCO Bangkok’s Asia-Pacific Programme of Educational Innovation for Development (APEID) and supported by the Japan Funds-in-Trust (JFIT). The collaborative project is the second of two projects on assistive technology which were planned and implemented from November 2012 to June 2014, under the overall theme of APEID’s project on Reorienting Teacher Education Towards Education for All (EFA) and Education for Sustainable Development (ESD).
Members of the team who worked on the collaborative project are from educational institutions across Asia Pacific, specifically from Australia (University of Notre Dame), Cambodia (Kaneal Regional Training Centre / Kemrak University), India (University of Pune, Satara Polytechnic and Vidyadeep Foundation, Osmania University), Nepal (Kathmandu University), Philippines (University of the Philippines Cebu), and Sri Lanka (Uva National College of Education). Dr. Dianne Chambers, Associate Professor and Coordinator Double Degrees / Special Education at the University of Notre Dame Australia led the project implementation with a group of coordinators from the participating institutions. Close to one hundred eighty in-service and pre-service teachers participated in the project.

The objectives of this collaborative project include: increasing the awareness of participating educational institutions on learners with different disabilities; developing a widely available resource on basic assistive technology that teachers can use for learners with disabilities; and advocating for continuous support to learners with disabilities after the conclusion of the collaborative project.

Several activities were planned and implemented to achieve the objectives of the collaborative project. Orientation workshops on assistive technology were held in India and Sri Lanka, while the topic was integrated in Nepal as part of ICT courses. Dr. Dianne Chambers also visited participating institutions in Pune and Satara (India) to conduct on-site training for in-service teachers. In Australia, pre-service secondary teachers gathered information on basic assistive technology and compiled the resources in a wiki. Master of Education students from the Philippines produced video clips that demonstrate math lessons that make use of basic assistive technology, as well as mathematics lesson plans for learners with disabilities.

A presentation on the collaborative project was made at the 17th UNESCO-APEID International Conference, available at [www.unescobkk.org/fileadmin/user_upload/apeid/Conference/17thConference/docs/2D3Technology_for_All_Bangkok.pdf](http://www.unescobkk.org/fileadmin/user_upload/apeid/Conference/17thConference/docs/2D3Technology_for_All_Bangkok.pdf)
News and Events:

- **From Exclusion to Empowerment: The Role of ICTs for Persons with Disabilities** (24-26 November, 2014. New Delhi, India)
  
  In order to include and empower persons with disabilities in the global discussion and in consideration of the development agenda, UNESCO and its partners focus on the human rights of these groups, while encouraging all stakeholders to consider, include and empower them through the effective use of ICTs.

  
  In line with the 2000 Dakar Framework for Action and the Education for All (EFA) goals, the focus on girls and their education has gained its rightful place in receiving attention in order to eliminate gender gaps in education and achieve equality. Despite the many strides and progress, much is yet to be accomplished. Women, especially in developing contexts, continue to face additional challenges. The Mobile Learning Week will aim to showcase the power of mobile technology to provide girls and women, especially those in disadvantaged communities, with the useful and educational tools, knowledge and skills, as well as the challenges and steps forward.

  
  Asia Pacific, having almost 650 million people with disabilities, has pushed the region to consider and adapt to the growing needs of these people. This conference and exhibition provide a platform for discussion, sharing of knowledge, development of solutions and networks.

- **The United Nations Enable Film Festival (UNEFF)** (3 December. UNESCO Headquarters)
  
  For the International Day of Persons with Disabilities, a collection of short films screened at the UN Headquarters has been featured since 2009. These films aim to raise awareness, understanding as well as promote active participation of persons with disabilities in our society. These films may feature various disability issues, or present a perspective from the disabled person’s standpoint and much more. Each year, you can send your short films for consideration by November 20th.

- **Tiresias.org: Making ICT accessible**
  
  This website is a useful resource for ICT-related topics. It provides information on the value of ICT accessibility, research on ICT projects, devices as well as reports, recommendations and project tools.

- **Coursera: Supporting Children With Difficulties in Reading and Writing**
  
  This course is aimed at teachers to better understand and address their students’ reading and writing needs as well as provide them with information on teaching the literacy skills to all of the students.

- **Dyslexia International**
  
  This non-profit organization provides teacher training aimed at teaching literacy to all sorts of learners in order to promote an inclusive classroom environment. Here you can also find free online courses, recommendations and materials for teachers and students.

- **The Global Initiative for Inclusive ICTs (G3ict)**
  
  The goal of this initiative is to “facilitate and support the implementation of the dispositions of the Convention on the Rights of Persons with Disabilities on the accessibility of Information Communication Technologies (ICTs) and assistive technologies.” This initiative allows international experts to create and encourage good practices, support and benchmarks for access to ICTs. In the ‘Resource Center’ of the
website, you can access various publications, toolkits, ‘expert zones’, country information, and much more.

**SENnet Teacher support**
This SENnet’s resource provides case study videos and professional development modules, such as free online courses, as well as various platforms in different languages.

**‘We are Teachers’ Knowledge Hub: Special Education**
This website’s resources provide support for teachers who are looking to get more ideas, recommendations and actual materials for lesson plans, podcasts as well as teaching approaches in the field of special education.

**How Technology Is Being Used In Special Ed**
This article explores the ways in which technology is adding to the educational experiences of the students with special needs, providing some pros and cons, a brief timeline, some useful resources and ways forward.

**ICT for Special Needs and the Disadvantaged**
This is the UNESCO Bangkok, ICT in Education page that focuses on special needs and explores ICT’s potential in this sphere. The page provides country, regional and global overviews that include some promising initiatives.

**National Center on Universal Design for Learning**
This center provides focuses on the Universal Design for Learning, which is a framework for curriculum development that provides all learners with equal opportunities to participate in the learning process. It offers a map for developing instructional goals, resources and assessment methods that address anyone’s needs, making it a flexible and customized approach.

**TechMatrix**
This website provides around 400 products and research articles on assistive and educational technologies.

**Skoog & Education**
This learning tool that is based on research in music, psychology and education creates an opportunity for all to explore and create music, whatever their capabilities may be.

**United National Enable: Development and Human Rights for All**
This website is part of the United Nations Secretariat for the Convention on the Rights of Persons with Disabilities. It provides various resources on themes related to disabilities and the corresponding work of the United Nations, with the aim of advancing the rights and development of persons with disabilities.

**New Publications:**

**Meeting the educational needs of children with disabilities in South Asia: A gap analysis covering Bhutan and the Maldives**
In partnership with the Enabling Education Network, UNICEF looked at the services and proper
resources available for children with disabilities in Bhutan and the Maldives. This report also looked at potential collaboration between UNICEF and national governments, and other partners, in order to focus on and develop inclusive education policies, based on the needs assessment.


This new report explores ways in which ICT can be used to make social impact, in various contexts and goals. It provides real examples of social entrepreneurs across the globe who are facing various challenges and barriers, yet are responding in innovative, beneficial and impactful ways. This summary provides some of the innovative projects of these entrepreneurs, and the link to the full report.

This report presents cases on how ICT can be used by social entrepreneurs, while also recognizing challenges as well as potential of technologies for development. It focuses on ‘Social Innovation Mapping’ and identifies a few common patterns in the countries presented. This mapping model allows for entrepreneurs to share their insights, both successes and barriers, providing feedback for development of sound strategies and roadmaps for success. This approach involved asking the right question, finding solutions, recognizing patterns, which include positive and negative insights, developing the social innovation mapping, and seeing opportunities.

In this report, two factors are presented: the challenges that these entrepreneurs face, and the approaches they use to handle them, whatever the context. Some of the examples feature ways to move toward digital citizenship, involve various stakeholders, include marginalized groups, develop decentralized networks, and collect data. The challenges identified include traditional business approaches, lack of and inconsistency of data, irrelevant training, and the costs of technology. Lastly, this report tries to showcase ways in which ICT can contribute to our quality of life and make actual social impact. One of the main questions raised was to investigate how these 26 social entrepreneurs, selected Ashoka fellows, utilize ICTs in order to make impact, in more than 16 countries within many sectors of society. The largest amount of projects came from Asia, followed by Africa, South and North Americas, Europe and MENA.

Some of the ‘design principles’, which are observations and understandings that emerge from the work of these entrepreneurs, include:

1. Developing digital citizenship. These entrepreneurs focus on relevant skills and information acquisition, focus on 21st century skills and lifelong learning, and develop these programs to ensure students’ use of ICTs in socially impactful ways.

Some of the “solution examples” include the Digital Opportunity Trust (DOT), which functions in 14 countries, tries to address unemployment among youth through peer-to-peer arrangement, a global network and cross-sector partnerships. With the help of ICTs and training in life, business and technological skills, the young people can drive economic and social change within their communities. Their Interns programme provides “two-week training in entrepreneurship, ICT, and workforce development and a nine month internship.” They also focus on the equal distribution of gender in order to include and develop women, who are facing many challenges in entering the job market and being role models. DOT also contextualizes their enterprises throughout the world.
Another project in Indonesia, ICT Watch, focuses on digital safety and responsible use of ICTs, addressing such issues as Internet addiction. It tries to focus on the liberating force of using technologies and Internet as the indispensable factor of the future. It also provides a module for parents and teachers as well as a comic book for the young users that provides information about the Internet, its hazards, and the ways to be safe and protected. These modules are available through the creative common license and have been used by other organizations. ICT Watch also hopes to build capacity in the country to develop and share online content and a curriculum on how to best use the Internet and social media for positive change.

2. Involving various stakeholders. These fellows focus on the “participatory and human centered design.” They recognize that the power cannot lie solely in the ICTs and that engagement and involvement of various groups is vital in order to confront the many social problems. “They anchor the success of their ICT innovation in the strength of their on-the-ground relationships…”

3. Involving and empowering marginalized groups. The social entrepreneurs try to dissolve the prejudice and stereotypes about the marginalized communities. These groups are also frequently excluded from participation in ICTs, which further segregates them from the competitive pool of job applicants. This not only affects the perceptions of the society around them, but also their own understandings of their self-worth and capabilities. Through the entrepreneurs’ work, these groups can have jobs that require ICT skills, while also changing the stereotypes toward them.

For example, in Saudi Arabia, the Glowork online platform aims to include and empower women to become an equal part in the Saudi workforce. It allows the women to share their resumes online with the hiring companies. Their Virtual Office monitoring tool allows women to work from home, addressing the challenges these women face in accessing transportation. Additionally, the founder, Khalid Alkhudair, engages with the Ministry of Labor to change the policies that undermine women and their involvement in the labor force. He is also starting campaigns to affect change in perceptions of both genders toward women and their capabilities in the workplace.

4. Shifting the exchange of knowledge and such networks to the communities. Instead of continuing to follow the highly centralized model of knowledge collection and sharing, these entrepreneurs try to design and form local community networks. These strides allow these groups to have greater access to information and knowledge, and opportunities to “act on the information.”

An example from Turkey, gelecekdaha.net, tries to help young people who need professional support and motivation to access this online platform, where they can receive mentoring, career counseling, and skill development. This initiative has also been used by high schools and universities through the developed mentoring opportunities and handbooks.

5. Collecting and using data to influence policy. The social entrepreneurs collect and use the data that is reported by citizens in order to affect decision makers and government policies in order to develop sound and meaningful strategies and change.

Some of the barriers include:

1. Dismissing the less privileged groups. Due to the centrality of ICT infrastructure and its ownership, many groups do not have access to these tools. These groups include those living in rural areas, or
coming from less wealthy backgrounds. Most of the companies focus on the already advantaged groups in urban areas, while dismissing the less easy-to-reach parts.

The AISECT project in India aims at including the rural youth by providing infrastructure, training and skill development through its centers. Education specialists update the content and certified courses in the local languages. Upon completion, students receive diplomas. These centers also support entrepreneurs in various fields. AISECT also partnered with the State Bank of India, which made it easier to help rural communities open accounts, ask for loans and much more.

2. Lack of available data. The difficulty of collecting, sharing and utilizing data is still a big issue. This promotes the further disconnect of rural or less wealthy communities from the society at large and the provided services.

3. Irrelevant training. While the job market continues to evolve and be shaped by the rapid changes of technologies and the skills required, much of the training received at educational institutions lags behind.

4. Costs of technologies. Implementing new technologies can be costly. Many of the organizations cannot find the means to do purchase and sustain these devices as well as necessary staff.

Some of the continuing ICT-based challenges include the high costs of ICTs for social change and ICT for better management, lack of training, sustainable and long-term partnerships, and inadequate skills to utilize the data available.


Student Learning in South Asia: Challenges, Opportunities, and Policy Priorities
This report focuses on primary through secondary levels as well as early childhood development in South Asia, and aims to investigate promising policies that lead to improved learning outcomes. It also analyzes the data from large-scale national assessments, and offers alternatives and priorities to improve learning outcomes in the region.

Logged On: Smart Government Solutions from South Asia
This publication explores mobile technology in relation to good governance and management. The report also provides real examples of how governments in South Asia have responded to the needs of the people and used more innovative approaches in collaborating directly with the citizens. The report showcases ways in which corruption, poor medical systems and much more can be addressed by mobile technology in contrast to the traditional approaches. This book offers various models and solutions for consideration.

Addressing Inequality in South Asia
This publication analyzes the enormous gap between the wealthy and the poor, thus focusing on the question of inequality in the region, its drivers and dimensions.

Violence against Women and Girls: Lessons from South Asia
This report studies the extent of violence against women throughout their lives in the region, the types
of violence they encounter as well as the offenders, the factors, and finally, the interventions. It also emphasizes the importance of research and evaluation, which lacks in this area.

  This report looks at global trends in human development, especially the continuing challenges and crises, identifying groups that are in most need. The report also makes recommendations in order to address these vulnerabilities and continue to build foundation for a stronger, more resilient future.

- **Measuring ICT and Gender: An Assessment**
  This report analyzes existing ICT indicators by gender, looks at the availability of data, and detects gaps based on the needs and demand. The situation of women is often ignored in both data collection and policy development. In this case, access to ICT is leading to a digital divide between genders. This report focuses on the efforts toward gathering of gender-disaggregated ICT data.

- **Information and Communication Technology (ICT) in Education in Asia: A Comparative Analysis of ICT integration and e-readiness in schools across Asia**
  This information paper discusses e-readiness as a framework, ICT integration in policy and national curricula, the necessary infrastructure and ICT-based instruction, as well as steps forward.

- **Model ICT Accessibility: Policy Report**
  This report identifies the gap between today’s technological leaps worldwide and the persons with disabilities who have the opportunities to participate in these strides. Therefore, this report aims to motivate policy makers and other stakeholders to create sound and inclusive ICT accessibility policies, while seriously considering persons with disabilities.

**Next Issue:** The December issue will provide an overview of UNESCO Bangkok ICT in Education team’s activity for this year.

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