Highlight: ICT and Higher Education

ICT for higher education: an overview of case studies from the Asia and Pacific region

UNESCO Bangkok coordinated a research study to document the use of ICT for higher education in the Asia and Pacific region with the support of the Japanese Funds-in-Trust. Targeted at Ministry of Education officials and specialists responsible for higher education, administrators and faculty members of HEIs, and higher education and ICT providers seven case studies were commissioned to focus on three main areas: open and distance learning; blended learning; and administration and management.

Collaboration in higher education and its benefits for ICT

Collaboration within higher education, particularly in research, has long been part of accepted practice, often driven by the scale of the challenge but usually from a collegiate ethos and a desire to impart knowledge and experience as widely as possible. The ICT community in higher education shares in and benefits from this spirit of collaboration both in terms of creating leading-edge infrastructures and through a free exchange of knowledge and experience.

News & Events

Creating a new culture of teaching and learning

UNESCO Bangkok and the British Council Thailand co-organized a Regional Seminar on Innovative ICT Practices in Teaching and Learning to provide a platform for educators and school administrators to share innovative ICT practices in the classrooms. In conjunction with the Seminar, a Key Players’ Meeting was also convened to facilitate UNESCO and partners to share their experiences and explore potential areas for collaboration.

Launch of the UNESCO Open Educational Resources Platform

The UNESCO Open Educational Resources (OER) Platform was launched by Ms Irina Bokova, Director-General of UNESCO and the Honourable Stanley Simataa, Deputy Minister for ICT of Namibia at UNESCO Headquarters in Paris on Tuesday 1 November 2011. The OER Platform is a new, innovative online Platform that will offer selected UNESCO publications as fully-licensed OERs.

UNESCO supports ICT in education master plan

Technological advancement has significant implications on every aspect of development. The application of ICT has become a critical tool to ensure equitable access, quality and efficiency in all aspects of the Education for All movement. The School Sector Reform Plan (SSRP) 2009-2015 supports the implementation and expansion of ICT assisted teaching/learning processes in all schools in Nepal.

Literacy web training to improve lives of people in Papua New Guinea

Stories of small but big people of Papua New Guinea who are dedicated to literacy were recently shared at a training to develop an official website for Papua New Guinea literacy and non-formal education at UNESCO Bangkok, Thailand.

First Regional Open Source Software Conference ended in Kabul
Afghanistan hosted a four-day Regional Open Source Software Conference - Central Asia (ROSCCA) from 15 to 18 October 2011. The first such initiative in the country and in the region, the Conference was jointly facilitated by the Afghan Ministry of Communication and Information Technologies (MCIT), the National ICT Alliance of Afghanistan (NICTAA), along with Open Source Afghanistan and UNESCO’s Kabul Office.

Programmes & Projects
The knowledge society - GeSCI
Founded in 2003, GeSCI is an organization initiated by UN ICT taskforce to provide strategic advice to assist countries to better integrate the use of ICT in their education system. The ultimate goal of the organization is to ensure ICT tools are properly used in improving the overall quality of education and development objectives.

Resources
UNESCO ICT Competency Framework for Teachers – Version 2.0
An updated publication designed to help training teachers on ways to optimize the use of information and communication technologies in the classroom has been launched early November 2011 by UNESCO in cooperation with the Commonwealth of Learning, Intel and Microsoft.

Transforming Education: The Power of ICT Policies
The result of a programme of studies, consultation and exchange on policies, this publication aims at providing useful information on contemporary challenges for and approaches to public policies in the field of Information and Communication Technologies (ICT) in education.

Implementing online or hybrid courses in a traditional university
The article discusses a proposal for introducing e-learning into a traditional university that is based on the educational change concept.

Microsoft Digital Literacy
Microsoft’s Digital Literacy website is dedicated to teaching and assessing computer concepts and skills. The site is aimed at users with little to no existing computer skills.

TypingWeb - Free online typing tutor
TypingWeb is a free typing tutor. It contains free typing lessons for people of all skill levels providing statistics and real time tracking as well as engaging interactive typing games.

Highlight: ICT and Higher Education
ICT for higher education: an overview of case studies from the Asia and Pacific region
The demand for higher education has accelerated worldwide. Between 1999 and 2008, the number of students enrolled in higher education institutions (HEIs) increased by 65 million, with much of the growth being seen in East Asia and the Pacific. In fact, the global demand
for higher education is predicted to expand from less than 100 million students in 2000 to over 250 million in 2025. This is likely to include the rising numbers of adults who seek to enrol in courses to upgrade their skills and qualifications. The OECD has estimated that participation rates of 40-50 percent in higher education are essential for strong economic growth. Despite the impressive statistics, most regions around the world have yet to reach this target. Governments and educational institutions are looking for innovative ways to increase access to higher education and improve the quality of their programmes and courses in a bid to improve their competitiveness.

The prevalence of information and communication technology (ICT) and the impact it has made in all aspects of our lives are compelling reasons for HEIs to try to capitalize on 21st century tools and technologies to address 21st century issues and challenges. This has motivated some HEIs in taking the lead to reshape the landscape of their educational systems as well as teaching and learning practices. Over time, the number of universities embracing new technologies to conduct the business of education is expected to soar. However, many HEIs may require guidance and assistance in their change process to minimize their teething problems, reduce costs, utilize appropriate technology and tools, and engage staff with proper knowledge and skills.

UNESCO Bangkok coordinated a research study to document the use of ICT for higher education in the Asia and Pacific region in 2009 with the support of the Japanese Funds-in-Trust. Targeted at Ministry of Education officials and specialists responsible for higher education, administrators and faculty members of HEIs, and higher education and ICT providers, the objective of the study was to increase understanding of how ICT can be used to:

- design and develop curricular contents;
- deliver higher education programmes and courses;
- enhance the learning process; and
- increase the efficiency of the administration and management of educational systems.

Seven case studies from Australia, Hong Kong-Special Administrative Region of China, India, People’s Republic of China, Republic of Korea and Singapore were commissioned to focus on three main areas: open and distance learning; blended learning; and administration and management.

Open and distance learning (ODL) has opened the door to higher education for many students. The burgeoning number of ODL students can be attributed in part to the increasing use of ICT in HEIs, as testified by the educational institutions featured in this report: (i) Symbiosis Centre for Distance Learning in India has more than 200,000 students from all over India and over 40 countries, with 150 employees and over 400 visiting faculty members; (ii) Shanghai Television University, an open university in China, serves more than 100,000 teachers and students; and (iii) Korean National Open University is a mega-university for ODL with more than 180,000 students. The flexible teaching and learning system is well suited for students who are unable to attend regular classes, and facilitates self-paced learning.
Even traditional universities are offering distance learning and integrating blended learning to complement their face-to-face classroom settings as described in the case studies from Queensland University of Technology, one of Australia's largest public universities hosting 40,000 students and 4,000 staff, and Nanyang Technological University in Singapore, a tertiary institution with about 30,000 undergraduate and graduate students.

In all the cases discussed in this publication, ICT is used not only for the delivery of lectures and materials, but also for administration and management purposes. It is clear that administrative functions such as student registration, grades, course schedules and even staffing evaluation, have benefitted from the use of ICT. The chapters on the Hong Kong University and the Indian Institute of Management, Calcutta, focused specifically on administration and management issues, albeit under highly different conditions and perspectives. They provide an interesting contrast but also reveal several areas of similarity regardless of their starting points or resources available.

By all accounts, the outcomes of utilizing technology for higher education have been very encouraging. The collective wisdom of countless professors and experts collaborating online, not bound by time and space, has contributed to the production of high quality teaching and learning resources. Innovative tools and technology, coupled with animated, interactive contents and activities have increased students’ attention and interests.

Notwithstanding the positive feedback, some issues and challenges have emerged that should be considered by other institutions when designing and implementing their own ICT for higher education plans, such as:

- Lack of support from management;
- Unclear division of function and power;
- Uncoordinated planning and implementation;
- Question of ownership;
- Shortage of trained staff to cope with the diversity of responsibilities and tasks;
- Resistance from staff and reluctance to be re-trained; and
- Insufficient funds for developing, purchasing and implementing ICT.

Some of these issues can be avoided through proper preparation and holistic planning. Recruitment of qualified staff and re-training of the whole range of professionals are high priorities to ensure the smooth implementation of any ICT-based systems. Another compelling factor for the successful development and adoption of ICT in any educational institution is its readiness for e-learning. Korea’s ICT infrastructure and standing is the envy of many countries in the region. The Internet, mainly through broadband connections, has reached more than 80 percent of Korean households in 2010. Likewise, Singapore is able to implement sophisticated systems based on its fully established infrastructure and facilities. Australia and China are also well positioned to do the same, but it appears that the level of development is largely dependent on the commitment and resources of individual institutions. India is still working to improve its readiness as a country on the whole. More resource-rich HEIs in India have institutionalized the use of ICT into their systems, but even they have several barriers to overcome before they can achieve their objective to deliver high quality e-education seamlessly.
It must be remembered that integration of ICT into higher education cannot be accomplished overnight. It takes years of planning and preparation, refining and retuning the systems. The other thing to keep in mind is the rapid change and development in technology. It is not uncommon to find innovative tools and practices once very much in vogue quickly losing grounds to newer inventions. Any investment made in the now “outdated” technology could therefore be lost – a situation to be avoided at all costs especially in view of limited resources.

This certainly creates a dilemma. On the one hand, development of ICT for learning is a long-term project; on the other, the ICT sector advances too fast to permit ponderous consideration and decision making. Clearly, this requires holistic and careful planning, supported by up-to-date information and expert advice that will consider factors such as pedagogy, quality learning, affordability, existing infrastructure and resources, staff capacity and course content development. Above all, it is critical to have a vision with clear objectives and strategies based on candid understanding of the institution’s strengths, weaknesses and core competencies.

The omnipresence of ICT has dictated the necessity for all educational institutions to adapt to the changing times. The demand for access to higher education can be, and has been, boosted by technology. The chapters in this publication discuss the issues in greater details. The experiences shared in the seven case studies provide an insight into how each institution addressed its own needs under different conditions. HEIs who are embarking on their own journey to incorporate ICT into their educational systems will find nuggets of valuable information in these chapters.

The publication will be available on UNESCO Bangkok’s website by January 2012. For more information, please contact ict.bgk@unesco.org

Further information:

- [ICT for Accessible, Effective and Efficient Higher Education](#)

Related links:

- [Better policies for better use of ICT in Education](#)
- [UNESCO Global Task Force on Quality Assurance in e-learning](#)
- [Sustainable ICT in further and higher education](#)
- [2010 Horizon Report - trends and challenges that will affect teaching and learning](#)
- [Revolutionizing higher education](#)

Previous issues of the e-newsletter:

- [UNESCO "ICT in Education" Announcement e-newsletter](#)
Collaboration in higher education and its benefits for ICT

By Malcolm Read, JISC Executive Secretary, JISC - Joint Information Systems Committee

Collaboration within higher education, particularly in research, has long been part of accepted practice, often driven by the scale of the challenge but usually from a collegiate ethos and a desire to impart knowledge and experience as widely as possible. The information and communications technology (ICT) community in higher education shares in and benefits from this spirit of collaboration both in terms of creating leading-edge infrastructures and through a free exchange of knowledge and experience. This has been the case since the early days of computing (and earlier in the case of information services such as libraries), but the Internet and the World Wide Web have greatly enhanced this beneficial interchange. More recently, the open agenda has promoted benefits to research, education, and society in general through open-source software, open standards, open access to research outputs, and open educational resources. Many opportunities lie ahead for more open, extensive collaboration and accompanying benefits for ICT, including through use of virtual research environments and cloud computing services.

Virtual Research Environments

The growth in research collaboration, usually international, has done the most to stimulate developments in ICT infrastructure, for example the Internet, the World Wide Web, high-performance computing, and data mining techniques. Virtual communities of researchers, sometimes groups of over a hundred and occasionally many more, rely on a common network infrastructure and access to common resources — such as large-scale computers, remote instruments and sensors, databases, and suites of software tools and applications — variously referred to as virtual research environments or collaboratories. Many of these applications and approaches are tailored to individual disciplines and can require considerable specialist support. Identifying generic applications for collaborative research, however, beyond traditional communication tools such as e-mail, Web 2.0 applications, and video conferencing, is proving difficult. The resulting high overhead in computing support is often borne by the researchers themselves, with associated costs, frustrations, delays, and loss of efficiency to the research project. On the other hand, tackling large research projects, particularly in the sciences, would not be possible at all without such collaborative research environments. (The Large Hadron Collider offers a good example of a large, international research collaboration.)

The applications and developments that have followed from the concepts and early work of
grid computing and e-science have been enormously beneficial, but they need streamlining and a more professional, robust standing. I would argue that the time is now right to build a new profession of research technologists to:

- Support collaborative research
- Identify generic approaches to collaborative research
- Provide training for researchers
- Maintain and enhance appropriate technical infrastructures beyond the existing network communication tools

A parallel would be the increasing professionalization of the learning technologists who now successfully support the multiple complex activities around e-learning (which encapsulates the overlapping and vaguely defined terms distance learning, online learning, flexible learning, blended learning, etc., etc.). A profession of research technology would define the core skills required, accredit training, and provide a career path. Research technologists would also be well placed to provide formal training to researchers in the demanding techniques of modern e-science–based research techniques.

Even if an integrated generic service for virtual research collaboration is unlikely to be achieved soon, there are possibilities for benefiting from economies of scale through collaborative areas such as cloud computing, virtualization, and the open agenda, which includes open educational resources and open science.

Cloud Computing
Cloud computing offers the possibility of outsourcing IT requirements to suppliers on the Internet. To take full advantage of the opportunities offered requires a professional approach to procuring cloud services and culture change in the way ICT is provided and exploited within research, learning, teaching (not just in higher education), and the management of universities. Sourcing from the cloud is one way of meeting short-term peaks in demand for computing requirements, individual software applications, or larger and long-term support and processing services.

The most obvious example of cloud services, now widely exploited by many higher education institutions, is the provision of e-mail, particularly for students. Many colleges and universities also use Web 2.0 tools such as YouTube and wikis for disseminating information and blogs for communicating remotely, usually within closed communities such as a student class or research team. All of these tools facilitate collaboration.

The opportunities for exploiting the cloud in administrative computing will benefit from experiences in the commercial sector, with further cost benefits achieved through the large-scale use of cloud computing for resource-intensive applications that avoid the need for large-scale in-house computer and data storage, which can be difficult to capitalize and maintain in smaller institutions. A short-term requirement for a lot of computing resources or data storage could be met more cheaply by using cloud services than by purchasing and maintaining additional processors, for example. The longer term use of the cloud for general computing in a university or college might also cost less than either central or distributed IT
provision when economies of scale can be realized.

Virtualization as an Option
Many issues must be considered before a university or college, or a department or faculty, decides to use cloud services. Despite some commonality of applications across universities and colleges (many use the same administrative and learning management systems, for example), the way in which these systems are used and tailored for the individual institution will differ. While some argue that organizations should consider redesigning their processes in collaboration with others to reap benefits, in practice this degree of collaboration is hard to achieve, especially where applications are seen as mission critical or offering competitive advantage. The concept of virtualization addresses this issue, enabling a single computer to run several different, completely independent applications.

Virtualization is not new. It can be, and is, used at any scale: between institutions to share different applications on the same computer, or within a university or college to run applications from different departments on a central facility (such as administration systems that require high security, and different learning management systems for a number of faculties).

Data Security and Persistence of Service
A more difficult issue when considering a cloud solution is confidence that the data and application will be secure and that the service will continue to be available over many years. The latter issue — a particular concern for long-term research projects — is not easily addressed by current commercial applications, particularly as users typically do not know where their applications and data are held. Using a private cloud presents a possible solution in situations where security is a concern, for example in storing ethically sensitive or proprietary business data. One or more universities might share a data center, for example, or contract for such a service with a commercial provider where suitable guarantees can be given. Some applications simply do not lend themselves to cloud solutions without considerable risk, however. Highly sensitive data, for example, or research applications that require specialized high-performance computing architectures are not good candidates, although in the latter case hardware is usually provided centrally, often at the national scale.

Distributed Computing Versus Shared Services
Despite many examples of shared services and collaboration in higher education, the creation of shared computing facilities has not been common since the widespread introduction of smaller scale computers (minicomputers) in the 1980s, followed more recently by personal workstations. The trend has been one of distributed computing. Typically, each member of staff has a personal workstation with varying degrees of separate processing applications. These range from clients for remote central services (especially common for administrative applications) to powerful stand-alone clusters of high-speed processors to large data stores for research applications. This engenders, in many cases, a culture of independence and a belief that complete control of one’s computing resources is the safest and surest approach. This is not always true, and it is seldom the most cost-effective, secure, or environmentally friendly way of providing computing resources.
Changing the culture of use is a slow process, however, and the premise of rational decision making cannot be relied on. So despite a collaborative and collegial approach in much of higher education, the use of cloud computing or the creation of shared private or semi-private cloud services will not happen automatically or spontaneously. It requires direct management action from leaders of universities and colleges, and in many cases might require national or regional (state) government involvement.

**Weighing Costs**

A final issue when considering any use of cloud computing, whether as a shared computing platform or as a means of delivering software services over the Internet, is the cost. Under many circumstances cloud computing should prove much cheaper than the current distributed computing provision. However, the costs are not well understood. At what scale would it be cost effective? For which types of application — administrative, large-scale long-term research, or short-term demanding projects? Under which circumstances is shared private provision (such as a regional or national shared computer service) cost effective? And when is it better to use commercial offerings?

**Exploiting the Cloud for Collaboration**

There is a real opportunity for the education and research community to build on its ethos of collaboration and pool its experience and requirements for computing and data curation facilities by exploiting the cloud. The obvious parallel is the international collaboration required to build the Internet. That initiative arose from a powerful desire to use networks for enabling a new research environment. The Grid, a book by Ian Foster and Carl Kesselman that recognized a new opportunity for exploiting high-performance networking for research, has been key to JISC’s e-science program. The cloud is the broader realization of the Grid vision that, like the network, has wider potential for education and society as a whole.

An important area where the higher education sector can build on the successful track record of collaboration is in exploiting cloud computing concepts to reduce costs, improve the flexibility of provision, and reduce the carbon footprint of ICT. JISC is currently conducting research into the environmental, organizational, and economic implications of using the cloud, including IT governance, legal implications, and skills issues.

The same processes and models that have led to a hugely effective research and educational network infrastructure can be deployed to provide a similar net of cloud computing and data curation resources. Creating specialist procurement and management organizations in the same way that many national research and education networks (NRENs) have provided the intelligent customer function necessary for educational networks. Whether the solution consists of self-provided computer centers or procurement of commercially provided services, it will require specialist management to ensure that the education and research community can maximize the benefit of cloud computing. This is a good time for the education and research community worldwide to pool ideas and expertise, collaborating to deliver the vision of a cloud of processing resources.
Endnotes
1. Although the concept of cloud computing is presented as a new opportunity, it is, in essence, an updated version of the traditional computer bureau services popular (at least in industry and commerce) in the earlier decades of computing. The recent universal provision of high-speed, high-bandwidth networks across higher education and research makes the cloud model of interest, although such outsourcing has not been common in higher education.
3. The JISC studies cover use for education in universities and colleges as well as research and administration. The studies will review the evidence for the environmental costs and benefits of cloud computing, as well as the current state of cloud computing for researchers and other institutional user groups. See the JISC web pages *Technical Review of Cloud Computing for Research* and *Using Cloud Computing for Research*, and the autumn 2009 edition of *JISC Inform*, specifically the article on *Blue Sky Thinking*.

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Further information:
- [Collaboration in higher education and its benefits for ICT](#)

Related links:
- [Making real world connections through project-based learning and telecollaboration](#)
- [COL-UNESCO Basic Guide to OER](#)
- [UNESCO Global Task Force on Quality Assurance in e-learning](#)
- [UNESCO evaluation shows student achievement increases by combining professional learning, compelling interactive digital content and technology in the classroom](#)
- [Towards OER university: Free learning for all students worldwide](#)
- [Digital Edition: E-Learning 2010](#)
- [Transforming higher education through technology enhanced learning](#)
- [The future of online learning: Ten years on](#)

Previous issues of the e-newsletter:
- [UNESCO "ICT in Education" Announcement e-newsletter](#)
News & Events

Creating a new culture of teaching and learning
Information and Communication Technology (ICT) has made a great impact on the way knowledge is produced and shared, which in turn has called for a paradigm shift in educational practices from teacher-centred to student-centred. Students are no longer seen as knowledge recipients; rather, they are seen as active agents of learning, who are actively engaged in knowledge creation with the help of teachers and peers. Social interaction and collaboration therefore has been given a great emphasis in this new paradigm of teaching and learning.

In this student-centred pedagogy, the teachers’ role and capacity has become more critical than ever. On top of necessary expertise in their subject matters, teachers have to understand how to guide their students in making judicious use of information from multiple sources, thinking critically, working and solving problems collaboratively. The challenge is how to enable teachers not only to overcome the technology barriers but also to empower them to integrate appropriate technology into the learning process. It is therefore suggested that all the different stakeholders in the field of ICT in education, such as policy makers, planners, teacher educators, teachers, and private sectors be actively involved in building teacher capacity for the effective integration of ICT in classroom practices.

It was in this context that UNESCO Bangkok and the British Council - Thailand co-organized the “Innovative ICT Practices in Teaching and Learning: A Regional Seminar” to provide a platform for educators and school administrators to share and learn about on the latest and innovative teaching and learning practices supported by ICT. The event was held from 23-25 October 2011 at the Imperial Queen’s Park in Bangkok, Thailand. A total of 102 speakers, key players, and participants from the region attended the Seminar. The countries represented were Bangladesh, China, India, Indonesia, Japan, Malaysia, Korea, Philippines, and Thailand.

UNESCO Bangkok Director Gwang-Jo Kim and British Council-Thailand Deputy Director Duncan Wilson who enjoined the participants “to listen to and engage the speakers and key players in discussions, to showcase your projects through the poster presentations, to learn from one another, and to discuss potential collaborations among yourselves and your schools across the region – so that we can work together in providing more models towards creating a new culture of learning through Project-Based Learning with Telecollaboration.”
Plenary speakers from various international organizations and areas of expertise were invited to present topical ICT in education programmes and projects that have a substantial impact on teaching and learning. Talks included relevant themes like the role of Teacher Education Institutions (TEIs) in ICT-pedagogy integration, promising project-based learning cases, available capacity-building initiatives and professional development programmes, communities of practice among teachers, and emerging issues in ICT in Education.

The participants were also treated to three (3) workshops that oriented the participants on various ICT applications that they may use in the regular classroom setting: The Digital Suitcase, Using Social Media for Classroom Teaching and Learning, and Multimedia Resources for Teaching and Learning.

Thirty-three (33) selected teacher participants creatively displayed the outputs of their innovative teaching and learning practices during the Exhibition and Poster Session. Each poster presenter was given five minutes to elaborate on his/her poster by discussing the project background, learning objectives, mechanics, outputs, and feedback from their students and communities. The participants voted on the top three poster presentations that stood out which were “Let’s Make the World A Better Place” (India: The Galaxy Education System), “Tradition and Heritage” (China: Nonglinxia Road Primary School, Aoweisi Primary School, Lindong Primary School), and “Myths and Beliefs Project” (Malaysia: Kolej Tun Datu Tu-anku Haji Bujang College).

The poster presentations and the session “School Collaboration Corner” provided the participants with an opportunity to gather ideas on potential projects as well as explore and develop potential collaborative projects towards building a community of innovative teaching practices.

In conjunction with the Seminar, a Key Players’ Meeting was also convened where UNESCO-Bangkok and key partners shared their respective programs and activities in the area of ICT in Education. The group discussed possible ways to leverage partnerships to provide the necessary support as well as develop new innovations to promote the quality of student learning.

The event evaluation results showed that the participants highly appreciated the seminar because it provided an opportunity to gather and share ideas, practices, and experiences from the speakers and among the participants. The participants mentioned that they were able to get good ideas that they can replicate or try out in their respective schools. As one teacher participant put it, “I have learned that teacher-centred learning is not very effective – students are like birds, they need to fly and ICTs make the classroom an open sky.” They stated that they got inspired and motivated to practice what they learned.

It can also be surmised that the participants appreciated the talks that presented actual / practical applications that they can directly and immediately apply to their classes rather than theoretical discussions. Another major topic that they found very relevant was the one on Child Cyber Safety since they witness themselves the various dangers of poorly managed
ICT utilization can pose to their students and to society as a whole. They liked the workshops very much because they provided “concrete” examples and applications.

The poster presentations and the talks that highlighted the potentials of networking and collaboration proved to be very useful as well. One participant stated, “Our school has longed ever since a connection to other schools in our country and abroad and we’ve been doing collaborative and student-centred practices for several years now. Yet this is only the time that I was aware that we could be possibly connected and be united in the midst of diversity in the global academe.”

In addition, participants who came from TEIs liked the session on what other TEIs are doing with regards to ICT integration in the curriculum. They appreciated the fact they were able to network with TEIs from other countries for possible research collaborations.

In general, the Seminar met the seminar participants’ expectations, garnering an average score of 3.49 out of a possible 4. They found the Seminar interesting (3.69), useful (3.62), and relevant (3.59). They were able to get new insights on ICT-Pedagogy integration (3.41). They found the speakers knowledgeable (3.59), organized (3.49), and facilitative (3.36).

With the success of this event, the next Regional Seminar is already being planned for 2012 as the culminating activity of the three-year “Facilitating ICT-Pedagogy Integration Project” funded by Korea Funds-in-Trust.


Photos of the event are available for viewing on this link: http://www.flickr.com/photos/ictined/

A video showing participants’ feedback is available at http://www.facebook.com/photo.php?v=10150317075251364

Launch of the UNESCO Open Educational Resources Platform

The UNESCO Open Educational Resources (OER) Platform was launched by Ms Irina Bokova, Director-General of UNESCO and the Honourable Stanley Simataa, Deputy Minister for ICT of Namibia at UNESCO Headquarters in Paris on Tuesday 1 November 2011. The OER Platform is a new, innovative online Platform that will offer selected UNESCO publications as fully-licensed OERs.

OERs provide member states with a strong opportunity to increase the quality and access to education and facilitates knowledge sharing, dialogue, and capacity building.

The first UNESCO publication to be made available on the OER Platform is the UNESCO
Model Curricula for Journalism Education. The Curricula has been very successfully adapted by more than 60 university journalism schools in over 50 countries. UNESCO has agreements with the journalism schools of the Polytechnic of Namibia and the University of Namibia to share their adaptations of the UNESCO curricula as OERs on the Platform.

By persuading and assisting additional journalism schools to share their adapted curricula in OER format on the Platform, the Platform provides the professor, curricula developer, or quality assurance assessor looking to develop their own curricula with an unparalleled opportunity to easily and intuitively select and compare curricula from near-by or international institutions, in their own language. They are then able to easily, legally, and freely “copy” the content closest to their requirements to adapt to their local requirements.

UNESCO will continue to upload new publications to the Platform. For 2012, work has commenced on the UNESCO Media and Information Literacy Curricula from the Communication and Information Sector and the General History of Africa Curricula from the Culture Sector.

Special guests at the OER Platform launch included Dr. Tjama Tjivikua, Rector of the Polytechnic of Namibia and Mr Edwin Tjiramba of the University of Namibia.

The Platform was developed with a Free and Open Source Software (FOSS) framework by the University of Witwatersrand, South Africa within the Africa Virtual Open Initiatives and Resources (AVOIR) Consortium comprising of 11 African universities.

Further information:

- [Launch of the UNESCO Open Educational Resources Platform](#)

Related links:

- [COL-UNESCO Basic Guide to OER](#)
- [UNESCO joins iTunes U](#)
- [Towards OER university: Free learning for all students worldwide](#)
- [The pedagogical enhancement of open education: An examination of problem-based learning](#)
- [7 things you should know about open educational resources](#)
- [Open Educational Resources Center For California](#)
- [The impact of openness on bridging educational digital divides](#)

Previous issues of the e-newsletter:
UNESCO supports ICT in education master plan

Technological advancement has significant implications on every aspect of development. The application of Information and Communication Technology (ICT) has become a critical tool to ensure equitable access, quality and efficiency in all aspects of the Education for All movement. The School Sector Reform Plan (SSRP) 2009-2015 supports the implementation and expansion of ICT assisted teaching/learning processes in all schools in Nepal.

Within the broader National Curriculum Framework, only a few schools in Nepal have introduced ICT as a separate subject, let alone ICT as a discipline that supports the overall teaching and learning processes. UNESCO believes that it is now the right time to introduce initiatives that strengthen the use of ICT in education in Nepal. All these initiatives need to be streamlined into a broader national framework in order to ensure an equitable access to, and quality of education.

Experiences show that countries who have implemented ICT in teaching learning processes are performing better and have greater learning achievements. These countries started with a broader conceptual framework (Master Plan), which governs them to move forward and achieve the intended results effectively. The UNESCO Office in Kathmandu, in collaboration with the Nepal National Commission for UNESCO and the UNESCO Office in Bangkok, supports the Ministry of Education in the preparation of an ICT in Education Master Plan to guide the education sector in using ICT as a fundamental tool for effective teaching and learning processes. More specifically, the plan will help achieve the following objectives:

- Improve policy, planning and management for the development of ICT in education;
- Expand equitable access to, and enhance quality in education;
- Develop knowledge and skills of the policy makers, managers, teachers and other enablers in implementing ICT in education; and
- Contribute to reducing the digital divide.

The plan is expected to be ready to be put in place by the end of 2011. As a country where the majority of schools need to begin ICT, the development of the ICT in Education Master Plan will provide a broader framework and guide the education system in Nepal to modern technologies, thereby contributing to the advancement of learner-friendly environments and improved learning achievements.

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Further information:

- UNESCO Office in Kathmandu

Related links:

- Myanmar announces second ICT masterplan
- UNESCO, INTEL connect ICT in Education policymakers
- Brunei: Ministry of Education prioritises ICT in Education
- Nepal develops Master Plan for ICT in Education
- Bangladesh begins initiative to develop its National ICT in Education Master Plan
- ICT National policies & case studies
- Developing a national information and communications technology strategy for education in Pakistan
- India launches a new scheme on ICT in Education, minister says
- Nepalese delegation visit the ICT team at UNESCO Bangkok
- Singapore schools go high-tech
- A “smarter” Thailand through ICT - Target to boost ICT literacy and computer use

Previous issues of the e-newsletter:

- UNESCO "ICT in Education" Announcement e-newsletter

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Literacy web training to improve lives of people in Papua New Guinea

Stories of small but big people of Papua New Guinea who are dedicated to literacy were recently shared at a training to develop an official website for Papua New Guinea literacy and non-formal education at UNESCO Bangkok, Thailand.

A man living in the dump turned a trained teacher to help his community children who spend their days collecting scraps and have never been to school to read and write.

A volunteer mother has been giving free lessons for ten years at an adult literacy school for women like her to be able to read books for their children.
A grandmother who can’t read her sons and daughters’ letters and was cheated by her community friends who are literate was encouraged to attend a literacy class.

A successful businesswoman who waited most of her life to become literate is finally fully proud of herself.

These stories were written as a prior-class assignment by participants from National Literacy Awareness Secretariat (NLAS) and Department of Education (DOE) and shared at the first-day web training under a topic of content management.

“People like to hear about what other people are doing,” Jim Pollard, a journalist at a local English newspaper in Thailand who was the trainer for day one of the workshop told the participants. “And I’d like to see the positive stories of good people doing good works in the website.

“The main thing is to get the introduction right. What do you think is the most important thing that you’d like to put in the beginning?” he said.

The seven government officers flew nine hours from their home country in Papua New Guinea to Thailand from 11 to 14 October 2011 to learn about necessary web-related skills in topics such as social media and video production, E-library and archives, web management and preparing images for the web to efficiently maintain their literacy website.

“This is a very good opportunity to tighten the relationship between UNESCO and PNG [Papua New Guinea] and we can learn about one another. This training will help improve our writing skills, and learn to upload and download for the website, and take good photos and take VDO footage.

“And you can learn a lot about our country,” said Maggie Maki Guria, a training officer of NLAS.

It’s the first time in history that all six of NLAS staff got invited to an overseas training altogether, but five attended as the head decided to man the office. The other two participants were from DOE.

The first PNG literacy website was developed in 2003 with support from the DOE. However, it was ceased one year after the launch due to funding constraints. In the absence of the literacy website as an effective information and communication tool, the important role of NLAS in coordinating literacy programmes throughout the country has not been functioning well, whereas the demand from literacy programmes providers and stakeholders has been consistently increased for NLAS to share information on literacy providers and programmes in the last few years.

NLAS is the main administration arm responsible for the coordination of literacy programmes in corresponding to the National Literacy Policy (NLP). The secretariat was established in 1985 and mandated the task of coordinating the NLP. However, due to a
number of factors such as inadequate funding, lack of trained manpower, weak coordination mechanism and the absence of implementation plans, the NLP has not been implemented successfully and is overdue for a review.

“People of Papua New Guinea will benefit from the information that they will get from the website in different areas that cover literacy. If there’s new information regarding literacy, for example, new methods in training teachers, new learning materials for adults and young children, statistics of literacy and new publications, the people, and also partners and stakeholders both national and international will go into the website,” said Ms Guria.

UNESCO recognised that existing literacy efforts for many developing countries including PNG would not be enough to achieve a 50 per cent improvement in levels of adult literacy by 2015, which is one of the goals agreed by the international community at the World Education Forum on Education for All (EFA) in Dakar, Senegal, in April 2000. To address this situation, UNESCO created a ten-year framework of collaborative action – the Literacy Initiative for Empowerment (LIFE). This initiative is conceived as a global strategic framework and key operational mechanism for achieving the goals and purposes of the United Nations Literacy Decade (UNLD). As a priority, LIFE targets 35 of the world’s most challenged countries, where 85 per cent of the world’s population without literacy competencies live today.

PNG is listed as one of the 35 countries under UNESCO’s LIFE, which is aimed at improving the literacy profile of countries. In PNG, LIFE resulted in the launching of the CapEFA Programme August 2009. In fact PNG is the only Pacific Island country to be included in UNESCO’s CapEFA Programme.

The CapEFA project aims to help PNG to develop capacity of concerned staff of PNG to address the country’s literacy issues. Among the capacities that UNESCO will help to develop in PNG DOE staff are knowledge creation, knowledge sharing and dissemination. It is in this context that this four-day workshop was organized at UNESCO BKK. It would help PNG participants to create and develop an NFE website, upload news, materials, and case studies about literacy. It would also help participants to manage and enhance the website and help broaden the partnership in support of literacy.

“PNG is a country with abundant natural resources. However, the most important resource of the country is its people. The currently literacy rate of the people of PNG is not very high. To be truly resourceful PNG’s people need to be literate and attain higher levels of learning. People’s potential cannot be realized without good literacy skills. Nor can the labor force of a country be productive and competitive without good literacy skills,” said Abdul Hakeem, an education advisor and coordinator for Asia and Pacific Programme of Education for All, UNESCO Bangkok.

“UNESCO BKK has made available a number of resource persons including media and ICT experts at this workshop to assist the PNG participants in learning about website development. It is important for the participants to use this opportunity well. They need to also remember that the ultimate beneficiaries of the project should be the non-literate people
who are to be assisted to learn to read and write through capacity development support from this project,” he said.

**Further information:**

- [Literacy web training to improve lives of people in Papua New Guinea](#)

**Related links:**

- [Afghan LIFE website](#)
- [To spread the light of IT](#)
- “Crowdsourcing – linking up to reach Education for All”
- [Time to move to competency-based continuing professional development](#)
- [UNESCO and University of Pretoria collaborate to improve information literacy of teachers](#)
- [Using ICTs to promote education and employment opportunities for immigrants and ethnic minorities](#)
- [Literacy Online](#)

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**First Regional Open Source Software Conference ended in Kabul**

Afghanistan hosted a four-day Regional Open Source Software Conference - Central Asia (ROSCCA) from 15 to 18 October 2011. The first such initiative in the country and in the region, the Conference was jointly facilitated by the Afghan Ministry of Communication and Information Technologies (MCIT), the National ICT Alliance of Afghanistan (NICTAA), along with Open Source Afghanistan and UNESCO’s Kabul Office.

The former Minister of Finance, Ashraf Ghani Ahmad Zai, praised the organization of ROSCCA and stressed the critical importance of the use of open source software (FOSS) in countries like Afghanistan. “If we consider the cost of one operating license (US$ 200), then Afghanistan needs to spend US$ 3 billion for 15 million users,” he said. “That is a huge cost for the country that suffers from serious economic problems and struggles with poverty.”
Experts on information and communication technologies (ICT) from Afghanistan, India, Iran, Italy, Kyrgyzstan, Nepal, Pakistan, Tajikistan and USA attended the Conference in order to develop a shared understanding of the issue and to form a regional open source alliance. The different panels that took place during the Conference focused on such issues as: Innovative FOSS Technologies, FOSS for Organizations, and FOSS for Socioeconomic Development and Education.

Amirzai Sangin, Minister of Communication and Information Technology of Afghanistan, highlighted the Afghan government’s achievements in the field of communications and information, and stressed the importance of open source software for his country, affected by a long lasting war, in order to ensure cheap access to Internet and IT services. “We have paved the way for wide access to Internet for Afghan population by deploying fibre optic across the country. This objective will be achieved through the use of open source software,” said Mr Sangin.

The Open Source Conference in Kabul was in line with Afghanistan’s outstanding achievements in the field of ICT and communications. According to the MCIT statistics, over 80% of the Afghan population is now covered by telecommunication services; there are more than 17 million GSM users in the country with the population estimated to be around 30 million.

During the four days of the Conference, participants shared their experiences and country reports on the use of open source software and formed a regional open source alliance. They called on policy makers, civil society and media to pay more attention to awareness raising about open source, and to take specific steps in order to facilitate wide use of FOSS technology in the future.

The Conference concluded by an evening event in the historic Babur garden of Kabul, where participants enjoyed Afghan local music and a photo exhibition.

Further information:

- First Regional Open Source Software Conference ended in Kabul

Related links:

- Free Software for Educators
- COL-UNESCO Basic Guide to OER
- ICT in Teacher Education: Policy, Open Educational Resources and Partnership. Proceedings of International Conference IITE-2010
- A funny thing happened on the way to the conference
- The open education disc project: An open source software package for Windows
- Free and open source software: applications for education, culture and access to information
• Free and Open Source Software for Development

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Programmes & Projects

The knowledge society - GeSCI

Founded in 2003, GeSCI is an organization initiated by UN ICT taskforce to provide strategic advice to assist countries to better integrate the use of ICT in their education system. The ultimate goal of the organization is to ensure ICT tools are properly used in improving the overall quality of education and development objectives.

GeSCI collaborates with Ministries of Education (MoE) and all the other relevant government agencies to understand the potentials and limitations of ICTs. With a comprehensive understanding and research on the issue, GeSCI gives strategic suggestions to governments on ICT infrastructure financing and resource deployment. In practice, GeSCI provides specialists to work with MoEs’ officials on a day-to-day basis, providing advice, information exchange and research analysis. The continuous information exchange is seen to be the foundation for the basis of building strategic capacities.

In addition to the collaboration with governmental agencies, GeSCI also undertakes research and analysis in the area of ICT. This work is often emphasized in comparing what developed and developing countries have done in similar situations, gathering experiences from the field, documenting good cases and developing useful tools to assist countries to improve their overall capacities in the area of ICT. One good example of the case is the development of TCO toolkit. This toolkit aims to help government to have a good measurement of the budgeting for ICTs in education. The content evaluation toolkit aids governments to supervise schools to select appropriate content for ICT-related classes. In all, the research and analytical work is crucial to GeSCI’s operations and is the foundation for GeSCI’s strategic advice to countries.

On a global level, GeSCI is actively involved in advocacy and partnership building. GeSCI encourages and facilitates a global information platform on ICT in education as a way to
contribute to the general understanding and development of a knowledge society. The complexity and rapidly changing nature of the ICT in Education landscape also requires us to seek a multi-disciplinary and multi-methodological research lens for understanding the impact of the phenomenon of ICT in education systems. This understanding empowers our partners at the global, regional and local levels, to make informed decisions about ICT in Education.

Further information:

- GESCI

Related links:

- Launch of the NESPAP Open Platform eLibrary
- Promoting teachers competencies on integration of ICT in teaching and learning
- Time to move to competency-based continuing professional development
- Better policies for better use of ICT in Education
- Policy makers re-examine implications and effectiveness of ICT use in education
- UNESCO, INTEL connect ICT in Education policymaker
- UNESCO-INTEL launch ICT in Education Policy Toolkit for India
- ICT in Education policy project
- ICT National policies & case studies
- Developing a national information and communications technology strategy for education in Pakistan
- Bangladesh begins initiative to develop its National ICT in Education Master Plan
- Bangladesh receives USD$81 million from the World Bank to build up higher education
- India launches a new scheme on ICT in Education, minister says

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Resources
UNESCO ICT Competency Framework for Teachers – Version 2.0
An updated publication designed to help training teachers on ways to optimize the use of information and communication technologies in the classroom has been launched early November 2011 by UNESCO in cooperation with the Commonwealth of Learning, Intel and Microsoft.

The ICT Competency Framework for Teachers aims at helping countries to develop comprehensive national teacher ICT competency policies and standards, and should be seen as an important component of an overall ICT in Education Master Plan.

UNESCO’s framework emphasizes that it is not enough for teachers to have ICT competencies to be able to teach them to their students. Teachers need to be able to help students become collaborative, problem solving creative learners through using ICT so they will be effective global citizens. The Framework therefore addresses all aspects of a teacher’s work.

The Director-General of UNESCO, Irina Bokova, launched the new publication on 31 October at UNESCO Headquarters alongside Sir John Daniel, President and Chief Executive Officer of the Commonwealth of Learning; François Ledoux, Corporate Affairs Manager of Intel Corporation; Paul Heneveld, Director of Microsoft Corporation’s United Nations Programmes; Janis Karklins, UNESCO’s Assistant Director General for Communication and Information; and Qian Tang, UNESCO’s Assistant Director-General for Education.

Further information:

- [UNESCO ICT Competency Framework for Teachers](#)

Related links:

- [Promoting teachers competencies on integration of ICT in teaching and learning](#)
- [Time to move to competency-based continuing professional development](#)
- [The contextualization and implementation of the UNESCO Teacher Competency Framework in Guyana](#)

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Transforming Education: The Power of ICT Policies
The UNESCO Education sector recently published a new book “Transforming Education: The Power of ICT Policies”. The result of a programme of studies, consultation and exchange on policies, this publication aims at providing useful information on contemporary challenges for and approaches to public policies in the field of Information and Communication Technologies (ICT) in education.

Indeed, ICT in schools are seen by education policy-makers as an opportunity. Yet, once policy-makers consider making significant investments in ICT, a host of questions emerge, from how many computers are needed in a school to how teachers can use them. While such questions represent important implementation issues, they should not frame ICT policy. ICT can have a greater impact when the policies and programmes designed to implement them are crafted in the broader context of social and economic goals and aligned to a vision of economic development and social progress - in other words, when ICT policies and programmes support educational transformation.

This book reviews policies, programmes, and experiences in a range of regional and developmental settings – Jordan, Namibia, Rwanda, Singapore, and Uruguay. Each brings a unique historical, cultural, political, social, and economic context to bear on policy and its formulation. These case studies provide models and lessons that can help other countries in formulating their own policies regarding ICT in education. In addition, drawing on the analyses of the findings across case studies, the book considers their implications for educational policy, change, and transformation.

Further information:

- Transforming Education: The Power of ICT Policies - pdf

Related links:

- Better policies for better use of ICT in Education
- Open EMIS testing a new policy tool in Mongolia
- Policy makers re-examine implications and effectiveness of ICT use in education
- UNESCO, INTEL connect ICT in Education policymaker
- UNESCO-INTEL launch ICT in Education Policy Toolkit for India
- ICT in Education policy project
- ICT National policies & case studies
- Developing a national information and communications technology strategy for education in Pakistan
- Bangladesh begins initiative to develop its National ICT in Education Master Plan
Implementing online or hybrid courses in a traditional university

By Jacqueline L. Cahill, Doctoral Student (e-Learning and Educational Technology), Ph.D. Northcentral University

Online education is rapidly growing in primary, secondary and university settings, and most educational institutions are aware that change is a constant in their customers’ lives, and are continually evaluating how to incorporate that into their practices. However, some traditional colleges are hesitant to implement e-learning programs or courses.

Respected professionals, including Michael Fullan and Thomas Sergiovanni, have explained the change process in education. They discuss the many obstacles that effective education administrators must overcome in order to successfully implement change.

The article discusses a proposal for introducing e-learning into a traditional university that is based on the educational change concept. It reviews the major obstacles that hinder the introduction of e-learning into American Higher Education institutions, and delineates strategies and incentives universities should implement to accomplish the task. Regarding the possibility of fully online degree programs and blended learning programs, the article also address the following: (a) how to build the program, (b) sell the program within the educational setting, and (c) assess the effectiveness on a continual basis. It is important for traditional universities to consider an e-learning and hybrid proposal to keep a competitive edge.

Read the paper:

- [Implementing online or hybrid courses in a traditional university](#)
Related links:

- COL-UNESCO Basic Guide to OER
- UNESCO Global Task Force on Quality Assurance in e-learning
- UNESCO evaluation shows student achievement increases by combining professional learning, compelling interactive digital content and technology in the classroom
- Towards OER university: Free learning for all students worldwide
- Digital Edition: E-Learning 2010
- Transforming higher education through technology enhanced learning

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Microsoft Digital Literacy

Microsoft’s Digital Literacy website is dedicated to teaching and assessing computer concepts and skills. The site is aimed at users with little to no existing computer skills. Microsoft supplies curricula for three levels of users:

- Microsoft Digital Literacy Basic curriculum
- Microsoft Digital Literacy Standard curriculum
- Microsoft Digital Literacy Advanced curriculum

The Basic Curriculum contains one course with three beginning lessons. “Welcome to the World of Computers” gives information on how computers are used in the modern world and how they can be beneficial in the user’s life. “Mousing Around” gives tuition on how to use a mouse correctly and what functions it can provide. “Keyboarding” provides instruction on correct hand placement and the different function keys.
The Standard Curriculum is made up of five courses. “Computer Basics” introduces the user to the fundamentals of computing, explains the components of a computer, explores operating system basics, and shows you how to use a mouse and a keyboard. “The Internet and the World Wide Web” shows the user how to connect to the Internet, browse Web pages, navigate Web sites, use search engines, and exchange e-mail with others. “Productivity Programs” teaches the user how to select the right software for your project. You will learn the fundamentals of word processing, spreadsheets, presentation software, and databases. “Computer Security and Privacy” helps the user gain confidence in computing by explaining the risks and threats to computer security and privacy so that they can understand and prevent them. And “Digital Lifestyles” introduces the user to new digital technologies, including digital audio, digital video, and digital photography.

The Advanced Curriculum has three courses. “Creating and Email Account” does just that: it takes the user through the steps of making a free Windows Live email account. “Writing a Great Resume by Using Microsoft Office Word 2007” describes the different types of resumes, how to access and use resume templates from Microsoft Office Online, and to create a resume by using Word 2007. “Finding and Evaluating Resources on the Web” describes how a search engine works and demonstrates ways in which it helps you to find varied resources on the Web.

The lessons and assessments can be completed online (broadband connection required) or downloaded and completed offline. These courses can be valuable for helping the inexperienced become more familiar and comfortable with using computers in their daily lives.

*Important note: at the time this review was written, the Digital Literacy courses would only work with Microsoft Internet Explorer on a computer with Microsoft Silverlight installed.

Further information:

- [Microsoft Digital Literacy](#)

Related links:

- [Thailand’s race to ICT literacy](#)
- [To spread the light of IT](#)
- [Media Literacy – “Common Sense Media” a great online source](#)
- [Educating the educators: Capacity-building essential for successful ICT in Education](#)
- [UNESCO and University of Pretoria collaborate to improve information literacy of teachers](#)
- [Philippines: User's manual on ICT literacy for teachers out soon](#)
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TypingWeb - Free online typing tutor

TypingWeb is a free typing tutor. It contains free typing lessons for people of all skill levels providing statistics and real time tracking as well as engaging interactive typing games. Official typing certificates sanctioned by the Typing Institute of America are available based on scores received on TypingWeb. This program works for international keyboards, including both QWERTY and AZERTY.

There is a Teachers Portal which is a free and easy to use web-based tool for monitoring and grading students’ progress on TypingWeb. Once logged onto the teacher portal, instructors can create unlimited student accounts, and view progress, and track activity. TypingWeb’s proven typing curriculum, combined with the ability to manage, grade and report on students all for free, makes it the ideal tool for teachers to utilize.

Further information:

- TypingWeb

Related links:

- Enhancing community multimedia centres in India
- Quick guide: Low-cost computing devices and initiatives for the developing world

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