Highlight

UNESCO Bangkok released two new CD-ROMs: Collection of E-Learning Tools
The UNESCO Bangkok ICT in Education Programme has created two new CD-ROMs which contain e-learning tools. They are both useful for instructed learning and self-learning.

News & Events

Practical use of animations in teacher training
More than 20 Cambodian teacher trainers have been trained on the practical use of animations in teacher training. This joint workshop between VVOB and UNESCO Bangkok was held from 25-26 January 2011 in Siem Reap, Cambodia.

Focus on new information technologies for International Mother Language Day
The theme for this year’s International Mother Language Day – The information and communication technologies for the safeguarding and promotion of languages and linguistic diversity – highlighted the new technologies’ enormous potential for safeguarding, documenting and promoting the use of mother languages.

US$12 million project for ICTs in West African universities
The Director-General of UNESCO, Irina Bokova, signed an agreement to launch a US$12 million project to boost the ICT capacity of West African universities, notably by creating a regional virtual library network.

4th Netexplorateur Forum took place in February at UNESCO
The most promising global innovators in digital technologies were awarded at the 4th Netexplorateur Forum on 3 and 4 February 2011 at UNESCO Headquarters. Their innovations are creating new forms of education, communication, information, solidarity and management around the globe.

Thailand develops e-content to align pedagogy with ICT
Curriculums not keeping up with modern technology has been worrying educators. To make Thai education as captivating as the Internet, the Ministry of Education has put 300 million Baht (US$9 million) this financial year into developing e-content that will replace textbooks for secondary and primary education.

Towards OER university: Free learning for all students worldwide
The Open Educational Resources (OER) Foundation hosted an open planning meeting on 23 February 2011 in Dunedin, New Zealand, for the project, OER for Assessment and Credit for Students. UNESCO provided support for streaming the meeting on the Internet to enable virtual participation by education leaders and interested persons.

24th ICDE World Conference second call for papers
A second call for papers has been announced for the 24th ICDE World Conference on Open and Distance Learning to be held 2–5 October 2011 on the island of Bali, Indonesia. The submission deadline for abstracts for both papers and posters is 31 March 2011.
Programmes & Projects
Hextlearn: Leading by example
This project aimed at contributing to the deployment of lifelong learning strategies through ICT within the Higher Education Institutions, by means of peer reviews methodologies and by promoting sharing and common understanding amongst the members.

Resources
2011 Horizon report on emerging technologies
The internationally recognized series of Horizon Reports identifies and describes emerging technologies likely to have a large impact over the coming five years on a variety of sectors around the globe.

Social network science: pedagogy, dialogue, deliberation
This paper explores the potential for Social Network Sites as an innovative pedagogical tool that precipitate the ‘incidental learner’. It suggests that these online spaces offer a potentially indispensable means of furthering the public understanding of science; and significantly one that is rooted in dialogue.

From search to research: Developing critical thinking through web research skills
This e-Book published by Microsoft addresses teachers to encourage their students not just to consume the material from the Internet but rather to question it.

Awesome Library
Awesome Library organizes the Web with 37,000 reviewed resources, including “the top 5 percent in education”.

Discovery education: Turfmutt
This website aims to provide games and experiments that help teach 3rd to 5th grade students to become better environmental stewards.

UNESCO Bangkok released two new CD-ROMs: Collection of E-Learning Tools
The UNESCO Bangkok ICT in Education Programme has created two new CD-ROMs which contain e-learning tools. They are both useful for instructed learning and self-learning.

These educational tools, which are generally offered for free by their developers, have been collected by a team from the ICT in Education Programme. They can be installed directly from the CD-ROM on any computer using the Windows operating system.

“Collection of E-Learning Tools - Recommended for learners age 3-13” is targeting kindergarten children, elementary students, junior high schools students, educators and parents. The e-learning tools on the CD-ROM are divided into the following categories: Educational Suites, Language Learning, Mathematics, Arts & Graphics, Computer Literacy and Geography & Astronomy. All these tools have been specially designed for young children and may help facilitate great learning achievements even in early years.
The second CD-ROM, “Collection of E-Learning Tools - Recommended for advanced learners” targets high school students, university students, educators and teacher trainers. The tools are divided into Geography & Astronomy, Language Learning, Mathematics, Science, Programming and Memorizing. They can potentially assist in teaching and learning at high school and university education. For instance, tools such as the Virtual Chemistry Lab or PHET enable to simulate complex science phenomena in a safe and interactive way through research based animations.

Each application has been thoroughly tested and verified to ensure its effectiveness and safety. The tools have also been checked to make sure that they do not include any viruses, adware, malware or spyware.

The two CD-ROMs are one of the outcomes of the ICT in Education Teacher Training Project in the Asia Pacific Region, sponsored by UNESCO G-77 and China South-South Cooperation Fund in Education.

For more information or ordering, please send e-mail to ict.bgk@unesco.org

**Further information:**

- [Collection of E-Learning Tools - Recommended for learners age 3-13](#)
- [Collection of E-Learning Tools - Recommended for advanced learners](#)

**Related links:**

- [ICT in Education Teacher Training Modules for Developing Countries](#)
- [Portal for Teachers](#)
- [Online Forum](#)
- [ICT Resources for Teachers CD-ROM](#)
- [Free Software for Educators](#)
- [Web Tools for Educators CD-ROM](#)
- [Multimedia Resources](#)
- [Pedagogy Training Modules](#)
Previous issues of the e-newsletter:

- UNESCO "ICT in Education" Announcement e-newsletter

What do you think about this topic?

- Visit our on-line forum and share your views

Practical use of animations in teacher training

Since 2003 the Flemish Association for Development Cooperation and Technical Assistance (VVOB) has been implementing a teacher training programme in cooperation with the Cambodian Ministry of Education, Youth and Sport.

As VVOB is currently implementing a component of their programme on the use of ICT in education they had requested UNESCO Bangkok for assistance by way of providing technical expertise in this field.

The main objective of the workshop was to provide Cambodian teacher trainers a practical training on the use of animations and simulations in teacher training in order to promote teaching practices in the science and life skills subjects at the teacher training centers.

The training was a combination of presentations and hands-on practice sessions to allow the teacher trainers to not only understand but apply the use of animations and educational software in teacher training.

On the first day of the workshop, Dr. Thanomporn Laohajaratsang of Chiang Mai University started with a presentation sharing insights in the use of multimedia in teacher training. The integration of learning materials was linked to the different learning approaches:

- Expository Approach
- Inductive Approach
- Social Constructivist Approach

This emphasized the roles of the students in the learning process. The relevance of the TPaCK model (Technological, Pedagogical and Content Knowledge) was highlighted as well.

After that, participants were given time to prepare a peer micro teaching session, taking into account the pedagogical background that had been discussed. They used animations on
physics, biology and chemistry from the UNESCO ICT in Education Teacher Training Series, which had been translated into Khmer.

On the second day, Hartfried Schmid of UNESCO Bangkok demonstrated the use of a number of educational software programs. Phun software for physics allows creating moving objects, which is especially useful for mechanics and dynamics. Virtual Chemistry Lab emulates a chemistry lab environment, in which various chemical substances can be mixed and reaction products, pH value and temperature can be monitored. Celestia software for astronomy allows the user to travel through space and observe planets and stellar constellations.

For biology and agriculture, two online applications had been selected. Google Body Browser, an experimental development of Google labs, allows exploring the different layers in the human body (skin, muscles, organs, circulatory system) by using a slider and 3D view. For agriculture, the Third World Farmer Game allows the player to measure the impact of natural, economic and human factors on the successfulness of harvests and enhances knowledge construction about best strategies for farming. The presentation was concluded with practice sessions on the use of the applications.

Overall, the workshop was well received by the participants and they pledged to use multimedia in their teacher training practice. Some teacher trainers emphasized the importance of linkage to the curriculum and the value of multimedia when real life experiments cannot be conducted.

Further information:

- VVOB Cambodia

Related links:

- The report on the status of ICT integration in education in Southeast Asia
- Providing ICT skills to teacher trainers in Cambodia: Summary of project outputs and achievements
- Science education for children using the TV magazine
- UN training programme helps Cambodia bridge digital divide
- Science Books Online
- Immune attack: Biology class in videogame form
- Encyclopedia of Life - An electronic page for each species of organism on earth
- Accessible elements: Teaching science online and at a distance
- Animated Science
Focus on new information technologies for International Mother Language Day

Half of the world’s 6,000 languages are endangered. International Mother Language Day (IMLD, 21 February) underlines the importance of preserving this cultural and linguistic wealth. The theme for this year – The information and communication technologies for the safeguarding and promotion of languages and linguistic diversity – highlights the new technologies’ enormous potential for safeguarding, documenting and promoting the use of mother languages.

As UNESCO Director-General Irina Bokova underlines in her message, each language “is a unique source of meaning for understanding, writing and expressing reality” and the international day is “a moment to recognize their importance and to mobilise for multilingualism and linguistic diversity.”

“We must harness the power of progress to protect diverse visions of the world and to promote all sources of knowledge and forms of expression,” added the Director-General.

On 21 February, UNESCO held an information meeting and debate, “Projects on Linguistic Diversity and New Technologies”. Linguists, experts and representatives of UNESCO, the International Organisation of La Francophonie and the Latin Union reported on the latest updates of the Atlas of the World’s Languages in Danger, as well as the first results of a UNESCO project that analyses linguistic trends since the 1950s. Debates on bilingual education and the new technologies are also on the agenda.
Meanwhile, UNESCO will be launching a campaign this year via the social media Twitter and Facebook to encourage users to share stories, photos and videos illustrating the potential of new technologies for the promotion of linguistic diversity.

UNESCO promotes linguistic diversity through a wide range of projects around the world. In Chile, it has published educational materials in three indigenous languages, mapuche, aymara and rapa nui. In Brazil, endangered indigenous languages and cultures are being inventoried in an effort to preserve them. In Africa, a programme designed to safeguard the Batammariba culture has been launched in the Koutammakou region (Togo) and is teaching the ditrammari language in 12 local schools.

International Mother Language Day, celebrated every year since 2000 on 21 February, aims to raise awareness of the importance of cultural and linguistic diversity and of multilingual education.

Further information:

- Focus on new information technologies for International Mother Language Day

Related links:

- Multilingualism on the Internet
- Spotlight on Memory of the World Heritage: Languages lost and found
- Message of the UNESCO Director-General on the occasion of International Mother Language Day
- International Mother Language Day: 21 February 2011
- Strengthening multilingualism in cyberspace
- UNESCO releases new publication on linguistic diversity in the Internet

Previous issues of the e-newsletter:

- UNESCO "ICT in Education" Announcement e-newsletter

What do you think about this topic?
US$12 million project for ICTs in West African universities
The Director-General of UNESCO, Irina Bokova, signed an agreement to launch a US$12 million project to boost the information and communication technology capacity of West African universities, notably by creating a regional virtual library network.

The agreement was signed with Soumaïla Cissé, President of the Commission of the West African Economic and Monetary Union (UEMOA), which is providing the funds.

The project is part of a wide-ranging cooperation plan initiated in 2006 by UNESCO and the UEMOA. It aims to develop the use of information and communication technologies (ICTs) to support an ongoing reform of higher education in the UEMOA member states (Benin, Burkina Faso, Cote d’Ivoire, Guinea Bissau, Niger, Mali, Senegal and Togo).

“Higher education is a vital force for development. Funding this project shows the commitment of your organization to reforming and modernizing higher education by creating centres of excellence,” said Irina Bokova. “The new technologies are the most effective method to reach this goal, by creating virtual libraries accessible to all, accelerating exchange between professors and students and stimulating research.”

“With the expert assistance of UNESCO, this project will empower teachers, students and researchers,” said Soumaïla Cissé. “We are indeed conscious that education is the key to the future, because emerging countries are founded on the quality of human resources. The virtual library we are creating will serve our young people both as roots and as wings!”

The three-year project will install ICT infrastructure, both material and virtual, in higher education institutions. The campuses of eight universities, one in each UEMOA country, will be equipped with fibre optic equipment and at least 200 computers with high-speed connection. In addition to a regional virtual library network to which universities will be linked, the project will set up a cyber institute giving professors on-line access to training courses. A central data base for calculating students’ course credits in all state universities will be established, to help harmonize academic standards and facilitate student mobility.

The project will be implemented by UNESCO’s cluster office in Bamako (Mali).

Further information:

- US$12 million project for ICTs in West African universities
4th Netexplorateur Forum took place in February at UNESCO

The most promising global innovators in digital technologies were awarded at the 4th Netexplorateur Forum on 3 and 4 February 2011 at UNESCO Headquarters. Their innovations are creating new forms of education, communication, information, solidarity and management around the globe. They impact on the way the public and private sectors reflect on development, dialogue and diversity and influence the elaboration of new strategies and programmes.

The Netexplorateur Forum is an opportunity to discover new and emerging trends in the use of digital technology, as well as to meet the creators of these innovations. Focusing on their adoption by citizens, businesses and institutions, the Forum is centred on the uses as well as on the cultural and social phenomenon of the Web.


For the 4th year, a network of international experts selected 100 innovations worldwide: the Forum brings together and gives a prize to the 10 best innovations. The 2011 Netexplorateur award winners include:

- CENSO 2010 (Brazil),
Datasift (United Kingdom),
E-Skin (USA),
FLATTR (Sweden),
HAL (Japan),
LewatMana (Indonesia),
mPedigree (Ghana),
MyTown (USA),
Natural Security (France),
Obami (South Africa).

Among previous laureates of the Netexplorateur Forum are: Twitter (USA), Wizzit (South Africa), Ushahidi (Kenya), Sekai Camera (Japan), Give Work (Somalia and Pakistan), Psiphon (Canada) and Layar (The Netherlands).

For the 2011 Forum, a theme-based approach addressed a broad range of issues and audiences through three half-day sessions on:

- Marketing / Communication / Medias;
- Innovation / Technology;
- Management / HR / Digital Society.

As a clearing house and repository of innovative best practices, UNESCO recognizes the increasingly important role digital technologies play in the fields of education, the sciences, culture, communication and information.

The new possibilities for dialogue and participation, but also access to knowledge, education and culture, stemming from the growth of the Internet are naturally at the core of UNESCO’s work and its mandate to serve peace and development by promoting:

- free flow of ideas and universal access to information and knowledge;
- expression of pluralism and cultural diversity in the media and world information networks; and
- access for all to ICT.

The Netexplorateur Forum meets those goals by recognizing promising digital initiatives worldwide and fostering the emergence of knowledge societies. It is an innovative project that aims to create the conditions for dialogue and sharing knowledge between cultures and peoples, based upon respect for universal values.

The programme of the Forum is available in PDF format below.

Further information:

- 4th Netexplorateur Forum took place in February at UNESCO
Related links:

- Programme Netexplorateur Forum 2011.pdf
- UK and Venezuelan ICT experts awarded UNESCO King Hamad bin Isa Al Khalifa Prize
- The Rector of the Moscow Institute of Open Education and Jordan’s Ministry of Information and Communications Technology are the winners of the 2009 UNESCO King Hamad Bin Isa Al-Khalifa Prize
- Chinese and Egyptian laureates receive UNESCO prize for the use of ICT in Education
- Shanghai TV University and Egyptian Ministry to receive the 2008 UNESCO King Hamad Bin Isa Al Khalifa Prize for the Use of ICTs in Education
- Celebrating Innovative ICT in Education Practices: From Idea to Impact

Previous issues of the e-newsletter:

- UNESCO "ICT in Education" Announcement e-newsletter

What do you think about this topic?

- Visit our on-line forum and share your views

Thailand develops e-content to align pedagogy with ICT

Curriculums not keeping up with modern technology have been worrying educators. To make Thai education as captivating as the Internet, the Ministry of Education has put 300 million Baht (US$9 million) this financial year into developing e-content that will replace textbooks for secondary and primary education.

“We have to change (the curriculum) because everything exists on the Internet. Students must be taught to learn by themselves, said Keartisak Sensai, Senior Advisor (ICT for Education), Ministry of Education (MOE). “With this money, we can develop about 1700 new lessons this year.”
And to combat the digital divide, these e-content are created such that they can be distributed on thumbdrives with each one holding on to a half-year’s curriculum.

Sensai told FutureGov Asia Pacific: “After development, the content will be distributed to educators via thumbdrives or hosted on a server for those with Internet access to download. These thumbdrive textbooks can then be shared amongst both students and fellow educators.

“Schools with faster Internet connection speeds can of course access these content directly from the Internet.”

Right now, the ministry already has 500 lessons in three subjects converted from textbooks into digital bytes. By May this year, the first semester of 2011, the e-curriculum will have been implemented.

“It is expensive to transform textbooks into e-content. It took two years and 70 million Baht [US$2.27 million] to develop the content that we have now. We need to look at lesson plans, Powerpoint slides, and form storyboards than can be placed on a multimedia platform,” said Sensai.

“Most of the content is currently in development. Hopefully by the next two years, every single course can be kept in a thumbdrive.”

But students are not the only targets of the new curriculum. Sensai said that Thailand has a shortage of teachers, especially during this “period of transformation from old to new” with older teachers who cannot adapt to the IT age moving out of the workforce.

“With a shortage of teachers, some of them might have to take on subjects they are not familiar with. So the e-content is a good guide for the teachers who have insufficient knowledge of their subjects,” said Sensai.

March to April 2011, teachers tasked with subjects out of their field of expertise will be trained with the thumbdrive e-content.

“Technology can help explain everything easily,” quipped Sensai.

Author: Xinghui Guo, FutureGov
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Further information:

- Thailand develops e-content to align pedagogy with ICT - FutureGov Magazine
Related links:

- Thailand’s race to ICT literacy
- The report on the status of ICT integration in education in Southeast Asia
- Science education for children using the TV magazine
- Creating the next generation of educators
- A “smarter” Thailand through ICT - Target to boost ICT literacy and computer use

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Towards OER university: Free learning for all students worldwide

The Open Educational Resources (OER) Foundation hosted an open planning meeting on 23 February 2011 in Dunedin, New Zealand, for the project, OER for Assessment and Credit for Students. UNESCO provided support for streaming the meeting on the Internet to enable virtual participation by education leaders and interested persons.

OER encapsulates a simple but powerful idea that the world’s knowledge is a public good. The Internet provides unique opportunities for everyone to share, use, and reuse this knowledge.

The OER Foundation, Otago Polytechnic (New Zealand), the University of Southern Queensland (Australia) and Athabasca University (Canada) are collaborating in this project as founding anchor partners to provide flexible pathways for OER learners to earn formal academic credit and pay reduced fees for assessment and credit.

“We extend an open invitation to all post-secondary institutions that care about sharing knowledge as a core value of education to join us in planning these sustainable learning futures,” said Dr Robin Day, Chair of the Board of Directors of the OER Foundation.
Phil Ker, Chief Executive of Otago Polytechnic in New Zealand, highlights that “OER is the means by which education at all levels can be more accessible, more affordable and more efficient”.

WikiEducator, a flagship initiative of the OER Foundation, administers the Learning4Content project – the world’s largest training project to provide free wiki-skills’ courses for the collaborative development of OER to thousands of educators from 140 different countries. “The Learning4Content model demonstrates that OER is cost effective and infinitely scalable,” said Dr Wayne Mackintosh, Director of the OER Foundation and founder of WikiEducator.

The challenge is to find robust mechanisms for academic credit for these OER learners. “Students seek flexible study opportunities, but they also want their achievements recognised in credible credentials,” said Sir John Daniel, President of the Commonwealth of Learning. “This important meeting will tackle the challenges of combining flexibility with rigour, which requires clarity in conception and quality in execution.”

“The concept of free learning for all students is well aligned with UNESCO’s global mission to provide education for all, which now seems imminently more doable with the mainstream adoption of OER in our formal education institutions,” said Dr Visesio Pongi, Director of the UNESCO Office in Apia.

Further information:

- Towards OER university: Free learning for all students worldwide

Related links:

- OER Foundation
- Policy forum : « Taking the open educational resources (OER) beyond the OER community : policy and capacity »
- The impact of openness on bridging educational digital divides
- Toolkit for academics on Open Educational Resources released

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24th ICDE World Conference second call for papers

A second call for papers has been announced for the 24th ICDE World Conference on Open and Distance Learning to be held 2–5 October 2011 on the island of Bali, Indonesia. The submission deadline for abstracts for both papers and posters is 31 March 2011.

Hosted by Universitas Terbuka, Indonesia, and supported by the Ministry of National Education of the Republic of Indonesia, the 24th ICDE World Conference will feature 8 keynote speeches, 297 paper presentations in 9 parallel sessions, and approximately 150 posters.

Call for papers

The overarching theme of the conference is, Expanding horizons – new approaches to ODL, and papers submissions which reflect the following sub-themes are invited:

- ODL and human capacity building
- ODL in a changing world
- Quality and ODL - the way forward
- Management and strategic development of ODL
- Open Educational Resources (OER) in a global world
- International development and distance learning

Call for posters

Poster submissions are also invited on the above sub-themes.

Abstracts should be submitted by 31 March through the conference website: http://www.ut.ac.id/icde2011/

Programmes & Projects
HEXTLEARN: Leading by Example

What is HEXTLEARN?
HEXTLEARN was a network project co-funded by the Lifelong Learning Programme EACEA, Key Activity 3- ICT. The project began in October 2007 and was completed in
October 2010. HEXTLEARN contributed to the deployment of lifelong learning (LLL) strategies through ICT within higher Education Institutions (HEI), by means of peer reviews methodologies, offering a database of good practices and other useful materials, organizing seminars and promoting sharing and common understanding amongst the members. HEXTLEARN focused on quality assurance aspects and on the integration of ICT as an innovation key for HEI.

**Who Could Participate in HEXTLEARN?**
Everyone working in HEI, regardless of their fields or disciplines could contribute to the aims of the HEXTLEARN project. They could participate as providers of campus education, partners in the provision of corporate training or continuing professional development, actors of adult education, particularly for elderly and disadvantaged groups, actors in local and regional development processes, providers of teacher training, providers of distance education and as organizers for the international mobility of students and researchers. The HEXTLEARN project worked five different European languages: however, the common working language within the network was English.

**What were the Benefits of Sharing Practice?**
The sharing practice of HEXTLEARN did have and continues to have many benefits. It allows for practices to be disseminated in a friendly and informal way to people working in the same field. The community may rate their practice to give rewards, acknowledgement and ideas for further development or possibilities of collaboration. All involved in the community could become members of a group of real ICT experts.

**How did HEXTLEARN contribute to the ICT in Education Community?**
The following report: Good Practices and Methodologies for HEI using ICT in the Different Fields of LLL Report summarized the outcome of a long research work during the project based on a detailed research plan. Different techniques were used to collect Good Practices of ICT use in the European Higher Educational arena. The report divided areas of investigation into the following categories: Adult Education (AE), Prior Learning Assessment (PL), Teacher Training and Retraining (TT), Campus Education (CE), Continuous Professional Development (CP), Corporate Training (CT), Distance Education (DE), Regional Development (RD) and Virtual Mobility (VM).

The summary of the report reveals that the use of ICT in HEI is spreading steadily in spite of the many doubts surrounding the quality of first generation E-Learning approaches and applications, but the quality assurance of higher education only marginally addresses eLearning, while the strategic integration of ICT in teaching and learning is still more highlighted in the policy documents than in the daily practices of European Universities.

While the universities are moving from a traditional profile to a new one, covering all the areas of Lifelong Learning (LLL?) (from school teachers’ education, to adult education and training, maintaining of course their “traditional” students), the capability to fit the different visions of these sub-systems in the use of ICT in teaching and learning, and so to provide a quality driven offer, is limited. The lack of synergies between these sub-systems represents a main constraint toward the quality enhancement in the HEI.
Conclusions
As the HEXTLEARN project ended in 2010, project partners decided to continue maintaining the community for the future. The final research results went online on the HEXTLEARN community. Today, the Good Practice Collection, the Virtual Peer Review Report and the Living Toolkit are now accessible for free; the project team has given the lead to community members to collaborate, network and use the Living Toolkit for their benefit. Let us congratulate the HEXTLEARN project for setting an example for a successful ICT in Education project and a job well done!

Further information:

- Hextlearn

Related links:

- HOW and WHAT to study in 21st Century?
- Revolutionizing higher education
- ICT changing the face of higher education
- Why give knowledge away for free? The case for open educational resources
- Personalised learning puts students in a class of their own

Previous issues of the e-newsletter:

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Resources
2011 Horizon report on emerging technologies
The EDUCAUSE Learning Initiative (ELI) and the New Media Consortium (NMC) recently released the 2011 Horizon Report, the eighth edition of this annual joint publication. Each year, the Horizon Report describes six areas of emerging technology that will have significant impact on higher education and creative expression over the next one to five years.

The report identifies six technologies that are expected “to enter mainstream use in learning-focused organizations.” Each of the six is assigned to one of three adoption horizons: one year or less, two to three years, and four to five years. For 2011, electronic books and mobiles are identified in the one-year horizon; augmented reality and game-based learning in the two- to three-year horizon; and gesture-based computing and learning analytics in the four- to five-year horizon.

The Horizon Report has become a bellwether for teaching, learning, and creative inquiry. Well over 100,000 copies of last year’s report have been distributed. The 2011 Horizon Report is available at no charge and has been released with a Creative Commons license to facilitate widespread use. It can be accessed at

**Download the report:**

- [2011 Horizon report on emerging technologies](#)

**Related links:**

- [Emerging technologies in distance education](#)
- [Pedagogical innovation in new learning communities: An in-depth study of twelve online learning communities](#)
- [Learning from national ICT/education agencies](#)
- [What is reasonable to expect from information and communication technologies in education?](#)
- [Digital Edition: E-Learning 2010](#)

**Previous issues of the e-newsletter:**

- [UNESCO "ICT in Education" Announcement e-newsletter](#)
What do you think about this topic?

- Visit our on-line forum and discuss this topic

Social network science: pedagogy, dialogue, deliberation

The online world constitutes an ever-expanding store and incubator for scientific information. It is also a social space where forms of creative interaction engender new ways of approaching science. Critically, the web is not only a repository of knowledge but a means with which to experience, interact and even supplement this bank. Social Network Sites are a key feature of such activity.

This paper written by Richard Watermeyer explores the potential for Social Network Sites (SNS) as an innovative pedagogical tool that precipitate the ‘incidental learner’. It suggests that these online spaces, characterised by informality, open-access, user input and widespread popularity, offer a potentially indispensable means of furthering the public understanding of science; and significantly one that is rooted in dialogue.

Read the paper:

- Social network science: pedagogy, dialogue, deliberation

Related links:

- Media Literacy – “Common Sense Media” a great online source
- The dangers and opportunities of girls in cyberspace
- Safe - A digital certificate in social networking for primary schools
- Engaging students with engaging tools

Previous issues of the e-newsletter:

- UNESCO "ICT in Education" Announcement e-newsletter
What do you think about this topic?

- Visit our on-line forum and discuss this topic

From search to research: Developing critical thinking through web research skills

Critical Thinking minds are those teachers want to develop in their students. Learning the ability to bring something into question can be applied to everything. The Internet changed the access to information significantly. Through the web students have the opportunity to receive news and information 24/7.

Evaluating this data and ensuring that it is valid is a different kind of story. The e-Book “From Search to Research: Developing Critical Thinking Through Web Research Skills” published by Microsoft addresses teachers to encourage their students not just to consume the material from the Internet, rather to question it.

The e-Book gives an overview of teaching techniques, for example on how to search the web efficiently and effectively, including key internet terms (spam, malware etc.), how do search engines work, how do search engines make money and so on. It also provides teachers with recommendations where to look for further teaching techniques.

Microsoft also tries to provide an understanding of how to use creative digital content ethically. Citing in a right way is a very important skill. Students have to learn how to take complete and accurate notes while researching. Another concern is how to stay safe on the Internet. Basic rules like not revealing personal information (pictures, address etc.) or how to act appropriately in social networks must be taught as well as the dangers of cyberbullying, online fraud, pornography and furthermore.

The Internet is a constantly changing stream of information. The World Wide Web offers the opportunity to stay up to date and get informed about any kind of topic. Teachers’ task is to teach students how to use this medium in the right way, so that the youngsters can be a part of the digital revolution in a safe and secure way.

Read the e-Book:

- From search to research: Developing critical thinking through web research skills

Related links:

- Technology to the rescue - Can gadgets in the classroom enhance learning?
• Standards for the 21st-century Learner by AASL
• Personalizing learning – The important role of technology
• Sprout - learn to create lasting change
• Media Literacy – “Common Sense Media” a great online source

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Awesome library
Library, a word that is interlinked with the image of a big building and a lot of books. Definitely a grown old institution, but not the prototype of something modern and innovative. The Awesome Library is nothing like this. In 1997 it was brought to the World Wide Web and today the website contains over 37,000 carefully reviewed resources, offering information for teachers, kids, librarians and so on.

The resources are all fulfilling certain standards like being child-safe, loading quickly and offering useful information to one of the target groups.

Approximately 2% of all resources are rewarded with a star. They fulfill at least one of the following criteria:

• The source of many other sources on the page
• A very comprehensive source of information
• Unusually well organized
• Contains essential information for the topic

Users of this interface have the option to either search on their own through the different categories or to enter key words or easy questions like “Who was Gandhi” in the search bar.

Let us take a closer look at exploring yourself: First choose the overall category, for example teacher or college-student. Now, a new site opens up and offers you additional choices, like subjects (English, Mathematics, etc.) or others (News, Authors, etc.). Following them there
will be new subcategories you have to choose from. This goes on until you made it to the field of studies you were looking for.

The Awesome Library also offers Beginner Guides for many computer applications. Take the “Internet for Beginners” course for example. Choosing this guide (subcategory technology) offers you a variety of links like “How to build a school website” or “Lessons for Librarians”.

All in all the Awesome Library is a very useful website for students, teachers or anybody else who is looking for reviewed resources.

Further information:

- Awesome Library

Related links:

- LibriVox: What volunteers can accomplish
- International children’s digital library project
- Freereading
- Google Books
- Creating digital libraries with UNESCO open source software

Previous issues of the e-newsletter:

- UNESCO “ICT in Education” Announcement e-newsletter

What do you think about this topic?

- Visit our on-line forum and discuss this topic

Discovery education: Turfmutt
Lucky was a marooned dog without a home, vagabonding in the streets of Indiana. One day he ran into an intersection, but did not find the way out again. This is where Kris Kriser found and rescued him. Lucky became part of the family and the initial spark for the Turfmutt Project. Because of Lucky’s love for backyards and green spaces Kriser began to launch a science program to educate 3rd-5th graders about plant science. The aim is to come up with games and experiments that help teach students to become better environmental stewards.

The website provides teacher with lesson plans and puzzles. They contain information about “How green is your community” or “Using plants to save energy”. Each of these lesson plans give detailed information on the learning objectives, the time frame, the materials needed for the teacher and the students and the different classroom activities. Besides that, the teachers also can use Turfmutt puzzles like a cryptogram or a “can you find it”. One of the most fun games to play with students is the “Save the Planet with Turfmutt” game. The goal is to collect all grass-seeds in every level in order to destroy the ferocious Heat Freak, Carbon Creep, Doc Runoff and Dust Demon.

Furthermore the website provides free video-clips on several topics, mainly concerning on how to build natural habitats for animals in your backyard. The US Ecosystems Map displays information about the climate zone, the rainfall the vegetation and many other interesting facts of every state in the United States. Additionally there is also a contest for school classes with the chance to win exciting, eco-friendly prizes including a $5,000 grant for the classroom and trees planted in the participants honor. The only thing the class has to do is to prepare a slideshow with descriptions and photos presenting the unique ecosystem of their home environment.

Further information:

- Discovery education: Turfmutt

Related links:

- Launch of climate change education web portal
- Immune attack: Biology class in videogame form
- Never stop learning. Come Explore
- Encyclopedia of Life - An electronic page for each species of organism on earth
Previous issues of the e-newsletter:

- UNESCO "ICT in Education" Announcement e-newsletter

What do you think about this topic?

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