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SUMMITS OF THE AMERICAS VIRTUAL COMMUNITY

OEA/Ser.E
CVC/FV-4/11
19 January 2012
Original: English/Spanish

SUMMIT TALK: HEMISPHERIC COOPERATION FOR THE ACCESS TO AND USE OF TECHNOLOGIES

REPORT OF THE VIRTUAL FORUM HELD FROM NOVEMBER 14 – DECEMBER 16, 2011

1. INTRODUCTION

This summary presents the main observations and recommendations from the virtual consultation Summit Talk: Hemispheric Cooperation for the Access to and Use of Technologies, held between November 14 and December 16 2011, and coordinated by the OAS Summits of the Americas Secretariat and the OAS Educational Portal of the Americas.

The virtual consultation had 94 participants from 26 countries, representing 79% of the OAS States, plus four countries from Sub-Saharan Africa, Arab States and Europe. Approximately 34 participants were male. Active participation was seen from representatives of academia, civil society organizations (CSOs), and the education sector.

The Forum facilitated a regional dialogue on rethinking educational practices using technology, under the human development framework. The dialogue was organized into 3 separate discussion topics:

- i. How can we advance projects that introduce ICTs in areas with diverse access to connectivity?
- ii. How are mobile technologies changing the learning process by facilitating access to ICTs?
- iii. How can Open Educational Resources (OERs) contribute to ‘knowledge for all’?

Brief introductory statements with suggested questions for discussion were presented for each discussion topic. They are appended at the end of this report.

The results of the virtual dialogue, which collect the main points made by the participants, are presented below.



2. MAIN COMMENTS AND CONCERNS FROM PARTICIPANTS

I. In the discussion about the introduction of ICTs in areas with disparate levels of **access to connectivity**, the participants shared a systemic view of the problem in which the following factors must be addressed: technology (hardware and software), course contents, teacher and student profiles, and their socio-demographic profile. One promising possibility is the use of blended or hybrid learning models, in which use is made of the possibilities and scope for implementation. This means combining existing technologies and methods (computers, interactive whiteboards, mobile devices, on-site training, other types of educational tools, etc.) in order to take advantage of all the tools available.

The greatest challenges to connectivity in the region are providing all the region's people with the possibility of accessing internet networks; promoting the appropriate and correct use of ICTs; the underutilization of equipment because of inadequate maintenance, the limited supply of real training options for teachers and students, administrative challenges, difficulties in linking the real world and academic programs, etc.; the preparation of teachers at all levels, including primary and secondary schools and institutes of higher education; and, finally, the integration of technology into day-to-day life.

The forum also spoke of the need to consider a **“community” approach “based on solidarity.”** In those regions where access is limited or nonexistent, projects involving communities must be designed, identifying leaders in the schools and communities to implement and manage the use of technologies.

II. The vast majority of the participants responded positively about the potential of **mobile education**, because it supports a kind of education that is inclusive and equitable, that builds young people's capacities, and that generates social capital. However, they concluded that Latin America needs a change in its coverage policies, infrastructure, and educational quality in order to train young people and citizens with a social and intellectual culture in the appropriate use of these new technologies. Greater progress depends on the universalization of connectivity services and on everyone having access to the use of ICTs, so that mobile education can be adopted as a teaching strategy.

At the same time, mobile learning poses challenges in the **development of teacher competences** at all educational levels. In addition to this, the use of mobile technologies must be combined with the skills necessary to identify valid and relevant information. There are currently risks in the dissemination of information that has not been previously validated or that lacks a specific focus, particularly if it is available to primary- and secondary-school students without the informed support of their teachers and parents.

To avoid this, it is important that teachers receive permanent training in technology and in the production of blogs, web pages, wikis, WebQuest, etc. Given the current state of education, the greatest responsibility lies with those educators who teach for a world that no longer exists and who must return to this new world of ICTs in education with insufficient



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tools, making use of all their creativity. In the specific case of teaching methods for mobile learning, teachers must learn as they work.

Mobile technologies make the greatest difference in transforming access to digital learning. However remote a settlement may be, a satellite link can always be installed to upload and download the internet signal, along with an antenna for its distribution; however, the problem is not only the availability of the technology, but also the cost and, to a lesser extent, on-site technical support. The greatest challenges remain the costs, the access channels, and the governmental commitment toward facilitating access to ICTs. But the enormous potential is clear if there is a commitment on the part of governments and relevant training for teachers.

However, greater segmentation of groups of students can be seen in their handling of mobile technologies in the classroom. This can be resolved if the device used is provided by the school and is standardized for all students. The current situation, however, serves to further segment the student population.

III. On the topic of **Open Educational Resources**, the participants tended to emphasize the role of private companies in OER initiatives. Private corporate investment in OERs can help reduce the gap in access to information that exists between urban and rural schools. In addition, the participants' approach is to promote and disseminate OER initiatives, to recognize their creators, and to generate resources for the underprivileged and on topics that are focused on the bases of regional cultures, the democratization of knowledge, and the maintenance of national cultures and ethnicities. *The participants noted that governments must be the protagonists in encouraging OERs for use by the general population, thereby availing themselves of the added educational value that they would create for their own populations.* They also noted that with globalization, intellectual capital is one of the most valuable tools that organizations possess. The focus of the state's role in this area is to promote and ensure legality in the production, use, and distribution of OERs, guarantee transparency in the production and administration of resources, promote access, and coordinate financial resources for their creation.

Throughout the forum, the participants shared information on experiences and best practices in their countries and communities with the introduction of projects to include ICTs in education in areas with low levels of connectivity and on the use of mobile technologies in education.

While inputs were made in all three topics, the most contributions were made on the challenges of using technology for education in the region. However, the discussions also pointed to some opportunities in the use of computers and ICT in the classroom, use of mobiles and increasing the value of OER.

Connectivity clearly continues to be a major problem in the region, with quality of technology a close second. Issues of cost, age of technologies, and maintenance and upkeep continue to inhibit widespread use of them for educational purposes. In some countries there is a sense that there is a lack of political will to make the choices of investment to ensure adequate infrastructure and support for technology access. In Barbados an innovative effort to have businesses donate wifi access is underway on the rationale that freely available internet will contribute to economic and educational development. The



existence of clean and sustainable power to keep the computers and technologies running is also a challenge for many countries in the region.

Other challenges include lack of training of teachers of how to incorporate ICTs into teaching, as well as the value of doing this.

It was also noted that school programs which teach children ICT literacy will see expanded benefits to families. Other examples of reaching out to all members of society include Mobile Technology for Community Health (MOTECHE), a program in Ghana which sends text messages in local languages concerning health issues. This kind of project encourages even those not reached by schools to learn ICT and also encourage parent to help their children to learn ICT.

3. PRINCIPAL RECOMMENDATIONS AND PROPOSALS

Suggested recommendations for governments:

- Define funding and subsidy policies for those sectors that are most economically vulnerable, because of the geographical areas they occupy, or their lack of access to services, to assist the implementation of and access to mobile technologies, and to encourage the training of teachers and access to those technologies by both teaching personnel and the population in general.
- Promote bilateral and multilateral agreements between states to promote the use of ICTs in the fields of education and health.
- Ensure that multimedia is within the reach of all, to allow equal access to the universal good that is information.
- National and international policies that uphold knowledge as a public good.
- Create policies derived from planning for the short, medium, and long terms.
- Promote collaboration with the private sector in the design and implementation of sustainable OER models.
- Make more use of OERs in public education for projects to encourage critical learning and in the appropriate area-specific training of teachers.
- Latin American countries should provide .edu domains (e.g., nameofeducationblog.edu.pa) free of charge to teachers so they can write educational articles on the internet or publish their education research.
- Create governmental and nongovernmental research, support, and work groups with a presence in different segments of the network to receive the best assistance and education about ICTs and, using that, to provide feedback to programs, players, and institutions that



- will assist in enriching the field of OERs, humanizing ICT know-how and technologies in conjunction with OERs, and bring them closer to individuals for greater social equality.
- Governments could sponsor production of content for OER, such as Guyana Learning TV. One thematic area could be chosen as a pilot project for implementing some of these ideas, and to test the impact, challenges and models for action in producing and using OER.
 - Governments should consider following the lead of projects such as One Laptop per Child in Costa Rica and Guyana.
 - Explore, in cooperation with other groups how to implement recycling programs to deal with hazardous and toxic materials in computers.
 - Teachers should be required to use ICTs at least once per term in all subject areas.
 - Provide basic ICT literacy and competency training for all groups in society to help establish the basis for a learning society.
 - Strategic uses of ICT should be integrated into policies and programming of all Ministries – education, health, industry, labor, etc. ICT should be considered a normal way of government business to allow an integration of ICT with all aspects of government and service provision.
 - Use of OERs needs to be accompanied by monitoring of students knowledge and skills assessment as well as feedback from tutors about the design mechanisms.

Recommendations for the private sector:

- Improve the coverage of mobile services.
- Lower connection costs and work for the mass use of computer equipment that is efficient, effective, and above all ecological, to reduce the impact of technological waste. In addition to this, free software must be a topic in all discussions about the use of mobile technologies.
- Different players from the private sector must be involved to perform their important role in the promotion of social responsibility, providing know-how, technology, and resources for the educational development of the communities and regions of which they are a part.
- Induction training for all elementary-level teachers, supported by a special budget for exchanges of teaching experiences from across Latin America.
- Cooperation, solidarity, and teamwork, integrating the private sector with the teaching community and focusing on the transformation of the “close neighborhood” and improving our context in the creation, dissemination, and use of OERs.



- Establish agreements with the public sector focused on the development of infrastructure and on support for connectivity, but also on commitments with social sectors and education stakeholders.
- Donations by the private sector of one or more computers or devices to schools to give them at least minimal access.
- Some potential solutions offered include the example of Brainstreet Learning in Guyana which is offering its platform for free for sharing learning resources.
- Business and governments join together to make WIFI access available free for schools and citizens in order to facilitate development of a knowledge society.
- Promote solar powered technologies - Green PCs – such as those said to be taken up by miners and others who work in areas off the electricity grid.

Educational institutions and civil society:

- In addition to mobile technology, there is a need to rethink existing educational practices and models, to develop free mobile educational applications, and to train teachers in the correct use of mobile devices and the internet for developing digital learning. It is important that we implement strategies to design education programs in the good use of ICTs, including tips for handing information, the appropriate use of social networks for environmental sustainability and stewardship, the design of multimedia material to be used as learning tools and thereby to encourage the emergence of digital citizens within the framework of a democratic society.
- Educate the community in the responsible use of OERs.
- Train teachers to use ICTs for educational purposes, and teachers who know how to process and distribute information using ICTs and the internet.
- Computer transfer / donation contracts should include funds for lab maintenance and training of qualified personnel to keep them running. Funds used in such projects should be accounted for clearly.
- Schools should institute a policy that every student graduates with ICT competency.
- Mobile technology educational strategies need to monitor the information children have access to, to limit inappropriate use of the technology.

Other recommendations:

- The countries should share the benefits of using OERs.



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- Establish a planned and participatory regional scheme for the creation of OERs, focused on local and regional improvements, taking historical and cultural backgrounds into consideration, and applying new technologies to ensure an interdisciplinary and crosscutting exchange.
- Donations from other countries of refurbished computers, although they can be less attractive to users than newer technologies
- Use of mobile phones (even old ones), existing computers, radio, television and other technologies in mixed approaches to enhance learning.



ANNEX I

TOPIC SUMMARIES AND DISCUSSION QUESTIONS

1. **How can we advance projects that introduce ICTs in areas with diverse access to connectivity?**

ICTs open new perspectives for economic, technical and human development, with potential for impact in all sectors, most importantly in education. This includes the classroom, as well as through open and distance learning which supports both formal, non-formal and lifelong learning. Due to the diverse levels of connectivity in the region, the integration of ICT into education faces some challenges: infrastructural challenges include access to reliable and affordable energy sources and reliability of the Internet or wireless connection; technological challenges include lack of computer equipment / ICTs, or outdated / nonfunctioning computer equipment /ICTs; limited access to training on how to effectively incorporate a range of ICTs and mixed-technology approaches into teaching, and, of course, challenges in obtaining sustainable funding for the implementation of policies and programs to integrate a range of ICTs into learning.

- i. What mixed-technology approaches can be implemented in schools in different countries in the region which build on context-appropriate technologies?
- ii. What are the main connectivity challenges in the region?
- iii. What successful strategies are you aware of to incorporate ICTs into education in areas with lower levels of connectivity?

2. **How are mobile technologies changing the learning process by facilitating access to ICTs?**

The use of mobile devices for education is an opportunity to expand the ability to "learn on the move" and introduces a new element in the possibilities of using resources for active learning that is centered on the learner. The applications available on smart phones, the most portable mobile devices, make possible the construction of knowledge by providing the possibility of audio and video recording, instant recall of information available online and at some digital libraries, and emphasizing active learning. There is also the possibility for real-time collaboration with peers and tutoring with teachers. This is possible by applications such as: instant messaging systems, social networks and micro blogs. The intensive use of these applications has proved to be a great contribution in improving the practices of collaborative learning. Additionally, mobile technologies have already proven their usefulness in non formal education through health and political information campaigns, educational gaming, and literacy applications. □ Mobile technologies are very effective in administration tasks, in the form of SMS



for support, quizzes and for assignment advice. Other potential teaching and learning uses include instructional delivery through podcasting and content delivery – so long as the learning materials are designed to suit different kinds of devices. Nevertheless, their efficacy for formal educations still poses some questions. For example, the small screen size is a problem for communication of text or images, battery life can be short and they are not useful for all subjects, and the dependency on communication infrastructure (networks) in the area where being used.

- i. What opportunities do you foresee in the use of mobile devices for learning in order to improve equality in education?
- ii. What challenges does mobile learning impose to the development of teacher competencies at the basic, middle and higher education levels?
- iii. What obstacles related to cultural traditions in our countries can be identified in initiatives that promote massive mobile learning?
- iv. Do mobile education approaches have enough potential to merit time, effort and investment in increasing their role in education?
- v. What strategies should be implemented to improve the effectiveness of mobile technologies in education?
- vi. What supporting policies are required to increase and improve their impact?
- vii. In what part of the education system (either formal or non formal) can mobile technologies have the greatest potential impact?
- viii. What possibilities are there for mobile technologies to transform access to digital learning, particularly in geographically remote areas or to assist under-served population groups, and what are the limits?
- ix. Can you share any experiences that you know about in relation to the use of mobile technologies in education?

3. How can Open Educational Resources (OERs) contribute to ‘knowledge for all’?

The education for all and lifelong learning initiatives (UNESCO) have encouraged the development of inclusive projects that everybody can participate in. The 21st century has witnessed the evolution of a movement in which various universities and organizations committed to education reinforced the initiative of UNESCO, allowing their campuses to access open educational resources in the form of courses, learning tools and multimedia resources in general. This initiative supports the principle that “knowledge is a public good and technology in general and internet in particular, offer a unique opportunity for anyone, from anywhere to share, use and benefit from this knowledge.” (<http://www.hewlett.org/programs/education-program/open-educational-resou...>) In 2002, in the "Forum on the Impact of Open Courseware for Higher Education in Developing Countries" organized by UNESCO, the acronym OER (Open Educational Resources) was adopted. This term refers to "Resources for teaching, learning and research that reside in a public domain or have been released under an intellectual property license that allows others to freely use them or for other purposes stated by the author” (<http://www.hewlett.org/programs/education-program/open-educational-resou...>) Three



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types of resources are identified: educational content, tools and implementation resources. At its core OER is considered a simple concept, which is at first legal, but has an economic impact. It describes those educational resources that are freely available for use by educators and learners, without an obligation to pay royalties or licenses.□ The transformative educational potential of OER relates to: 1) Increased availability and affordability of high quality, relevant learning materials which can contribute to more productive students and educators; 2) By adapting materials students are encouraged to be active participants in education through doing and creating, rather than only reading and absorbing; 3) OER can help institutions and educators produce and integrate a range of educational materials into learning programs.□

- i. How can leaders in the private sector strengthen inter-sectoral cooperation with other players and contribute in the promotion of “access to knowledge for all using ICT” through the development of Open Educational Resources?
- ii. What are the channels and policies that would effectively increase awareness of OER and explain its potential benefits?
- iii. What is the role of governments in the design and application of sustainable models that ensure the ongoing viability of OER initiatives?
- iv. What would be necessary to build quality-assurance mechanisms in the implementation of OER projects?



ANNEX II

SUMMARY STATISTICS:

Summit Talk: Hemispheric Cooperation for the Access to and Use of Technologies.

Table 1:
Participants

Country	Number	Country	Number
Antigua and Barbuda	1	Mexico	3
Argentina	5	Nicaragua	1
Bahamas	1	Peru	4
Barbados	1	Suriname	2
Bolivia	5	St. Vincent and the Grenadines	3
Brazil	2	Trinidad and Tobago	8
Canada	1	Uruguay	4
Colombia	13	USA	4
Costa Rica	1	Venezuela	1
Dominica	3	Other regions:	
Ecuador	3	Afghanistan	1
El Salvador	1	Algeria	1
Grenada	3	Ghana	1
Guatemala	1	Norway	
Guyana	4	Sierra Leone	1
Haiti	3	South Africa	1
Jamaica	3		



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Table 2:

Answers to the question: What are the main connectivity challenges in the region?

Main challenge	Number of responses
Lack of functioning equipment	3
Cost of access	3
Available infrastructure	2
Security of computer and content	2

Table 3: *Answers to the question: What are the main challenges to use of technology in the classroom?*

Main challenge	Number of responses
Lack of willingness or awareness of teachers	4
ICT literacy of students and society at large	2
Lack of appropriate applications	1
ICT literacy of governments	1