Asia-Pacific Economic Cooperation

DepED DEPARTMENT OF EDUCATION

Information and Communication Technology for Education (ICT4E) Exposition

PROCEEDINGS

Mactan Island, Cebu, The Philippines
9-10 June 2010

ICT4E Expo 2010

Human Resources Development Working Group
October 2010

About the cover

Lapu-Lapu, Datu of Mactan, is considered the first Filipino hero to resist Spanish colonization. Mactan Island, Cebu, served as venue for the APEC ICT4E Expo 2010.

About the logo

The logo for the ICT4E Exposition is a handmark created by stamping the palm and fingers soaked in various pigments. It has four noteworthy elements: the hand, the colors, the asperand, and the handmark itself. The hand signifies action and cooperation. The asperand denotes the digital or information age. The pigmented fingers stand for the varying flag colors of the numerous Asia-Pcific economies. The resulting hand imprint suggests a milestone in learning.

Together, the colorful hand ingrained with the asperand, represents the gathering of diverse nationalities in the Asia-Pacific region with a common aspiration of and joint efforts for economic empowerment through ICT-enhanced education.

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PREFACE

On behalf of the Institute of APEC Collaborative Education (IACE) and our beloved ALCoB International, it is my great pleasure and honor to send my greetings to ALCoB Philippines and my special salutation to the Secretary of DepED Philippines, Ms. Mona Valisno, and the Assistant Secretary, Mr. Jesus L.R. Mateo, and sending forth my congratulations for the successful conduct of the ICT4E Expo 2010 in beautiful Cebu, Philippines, and the official launching ALCoB Philippines.

With no doubt, there is one thing for certain that more and more of information and communication technology will be utilized in education in the future. The priority area 'ICT and Systemic Change' at the 4th APEC Education Ministerial Meeting is the cross-cutting issue embracing the other 3 priority areas: Learning Each Others Languages, Math & Science, and CTE/TVET. That is to say, ICT is applied not only to promote teaching and learning, but also to change the whole education system. This implies that now is the point in time to make our efforts for ICT-based holistic system change. In this context, the ICT4E Expo 2010 has a very special significance, so I would like to express my cordial appreciation to Department of Education Philippines for this valuable opportunity. I sincerely hope that many cases and models of ICT-based systemic change can be derived from the Expo while we are all awed by the beauty of Cebu, and thus all of these can enable the Philippines to form its sustainable contribution for shared prosperity, APEC's motto, and further the creative leadership in this priority area.

I, as the founder of ALCoB, am also very pleased that ALCoB Philippines will be officially launched this time. ALCoB Philippines have shown very active participation since 2002, and through this official launching, now ALCoB Philippines will be officially together with other 5,000 international ALCoB members in the APEC region. I vividly remember the passion, the positive mindset, and the shining eyes that ALCoB Philippines have shown and that still lingers in my mind. The path of innovation over transition could be found when "we" not individuals, participate in the efforts and take "holistic" approach where physical and mental factors are assembled. Education focused on human capacity building is a powerful driving force towards prosperity in the future. Especially, the power of a community aligned with a definite vision goes beyond what your imagination can reach and attain. I believe in the infinite potential of ALCoB Philippines to contribute in narrowing down the digital divide for shared prosperity within APEC.

Once again, congratulations on the opening of ICT4E Expo 2010 and the official launch of ALCoB Philippines, and I wish for its great success in the years ahead. Thank you very much.

YOUNGHWAN KIM
President, Institute of APEC Collaborative Education and
Coordinator, APEC HRDWG EDNET

On behalf of the Government of the Philippines, the Department of Education bids you “mabuhay” and welcome to this 2010 APEC ICT4E Expo.

It is a distinct privilege for the Department of education, along with its partners in this significant gathering – the Department of Science and Technology, the Commission on Higher Education, the Commission on Information and Communications Technology and the Technical Education and Skills Development Authority – to host this event for the Asia-Pacific Economic Cooperation. As you will learn in this Expo, all four agencies have flagship programs on Information and Communication Technology for Education or ICT4E.

The Department of Education in particular has been spearheading the ICT4E movement here in the Philippines both as a matter of initiative and as a matter of necessity.

Our initiative, on one hand, stems from the fact that information and communication technology has been part and parcel of the tools employed by educators since the advent of radio. The Philippines has been among the first countries in the world to use radio, in particular, and ICT, in general, for educational purposes.

Our sense of necessity, on the other hand, is prompted by our commitment to Education for All and the United Nation’s Millennium Development Goal Number 2, which to our view can only be achieved in a timely fashion through ICT. Most definitely, we are committed to use ICTs to achieve our EFA targets and to reach MDG Number Two – the universalization of primary education – in this country.

We are certain that the membership of the Asia-Pacific Economic Cooperation that stretches from East Asia, Southeast Asia, Australasia and the Americas would profit from the sharing of experience and lessons learned inherent in Expos such as this. Further, the cross-pollination of ideas that would transpire will lead to larger, richer and more substantive areas of cooperation that would enrich education within the Asia-Pacific Region.

We wish the delegates coming from the 21 APEC member economies to have a productive yet enjoyable time in Cebu.

MONA VALISNO
Secretary
Department of Education of the Philippines

FOREWORD

In 2005, the Philippines introduced a National Framework Plan for ICTs in Basic Education with the preamble:

The transformative power of ICT is more likely to be realized when it is introduced in the context of a radical system-wide reform.

Since then, we in the Philippine education sector have adopted a system-wide, comprehensive approach to information and communication technology for education covering three major areas: ICT for pedagogy; ICT for teacher development; and ICT for education governance. ICT for pedagogy encompasses basic education, higher education, technical vocational education and training, as well as alternative learning systems. ICT for teacher education involves teacher education and training as well as the enhancement of teacher status. ICT for education governance covers the entire gamut of systems employed in running a multi-level bureaucracy and in the planning, design and implementation of educational programs.

As Overseer of this ICT4E Expo, I have made it a point to reflect this system-wide, comprehensive approach not only in the conference agenda but in the multifarious sectors represented here as well. The APEC ICT4E Expo features exhibits and presentations, papers and panel discussions from APEC bodies, member economies, the international development assistance community, the private sector, civil society and the academe. It also highlights the participation of one of the pillars of ICT4E governance, the local government, herein represented by the provincial government of Cebu and the municipal government of Lapu-lapu. All of these within the backdrop of idyllic Mactan, one of the Philippines' best kept secrets.

With this multi-faceted program, the Organizing Committee hopes that this event would mirror the true nature of this exciting new journey that the APEC community is embarking in referred to as information and communication technology for education.

JESUS L.R. MATEO
Assistant Secretary
Department of Education of the Philippines

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INTRODUCTION

Expo Overview

The word EXPO is defined as a collection of things for public presentation. The 2010 APEC ICT4E Expo is just that: a collection of initiatives, experiences and lessons of various actors involved in information and communication technology for education within APEC member economies.

Around 100 ICT for Education experts gathered for the APEC Information and Communication Technology for Education (ICT4E) Expo on 9-10 June at the Hilton Hotel in Mactan Island, Cebu, the southern resort capital of the Philippines.

Objectives

In general, the expo aims to provide a venue to facilitate sharing of experiences and best practices in and gain support for ICT4E plans and programs throughout the APEC region.

Specifically, the expo aims to: 1) widen dissemination and involvement in APEC ICT4E initiatives; 2) facilitate sharing of experiences and best practices to directly support the 4th AEMM Joint Statement and EDNET Strategic Action Plan for ICT and Systemic Reform; 3) gain support for upcoming ICT4E projects of developing economies; and 4) provide a venue to reconvene the APEC Cyber Education Network.

The event also aims to prepare the youth and the coming generations for better education and market opportunities as well as to help them keep up with more efficient technological advancement and applications to learning.

To achieve this, the two-day expo featured (1) updates on APEC ICT4E initiatives, (2) presentation of papers on ICT4E, (3) initial negotiations on funding for ICT4E projects of developing member economies and (4) showcase of different ICT initiatives in the APEC region.

Mechanics

Date and Venue. The conference was held on 9-10 June 2010 at Hilton Cebu Resort and Spa, Mactan Island, Cebu, Philippines. Cebu, found in the southern part of the Philippines and 365 miles south of Manila, has a total land area of 291.2 square kilometers. It has two seasons: wet and dry. Dry season starts at mid-November until mid-May, and the rest of the year is wet season. Since Cebu is surrounded by beautiful bodies of water and its weather is perfectly mild, both locals and foreigners enjoy spending their summer breaks in different hotels and beaches here.

Participants. Educators, academicians, development practitioners and policymakers from the Education Ministries of the 21 APEC Economies. International organizations and funding institutions were also invited to participate in the Expo as sponsors.

Program Structure

The Expo began with an APEC ICT4E Situationer by Dr. Younghwan Kim, president of the Institute of APEC Collaborative Education. It was then follwed by a program that was structured into four plenary sessions, each one featuring a major theme keynoted by a regional authority on the subject.

The first plenary session was a sampling of APEC's ICT4E initiatives. It was keynoted by Professor Chi Syan Lin of the National University of Tainan and featured Korean and Philippine APEC-funded projects as well.

The second plenary session, keynoted by Chancellor Grace Javier Alfonso of the UP Open University, showcased ICT4E experiences of the APEC member economies including Brunei Darussalam, China, New Zealand, Peru and the US.

The third plenary session, keynoted by Cristina Kim Morla Chiong Kongfook of the Pontifical Catholic University of Peru, featured ICT4E undertakings by international organizations such as SEAMEO, IDRC and Colombo Plan, as well as projects by the private sector.

Lastly, Plenary IV, keynoted by Assistant Secretary Jesus Mateo, featured a panel discussion on ICT4E projects of Philippine line agencies, private establishments and local governments.

The Expo Team has made a deliberate effort to cover the entire spectrum of ICT4E initiatives, products and services not only in the conference agenda but in the multifarious sectors represented here as well. The APEC ICT4E Expo featured exhibits and presentations, papers and panel discussions from APEC bodies, member economies, the international development assistance community, the private sector, civil society and the academe.

Product launchings and demos and exhibit viewing are also part of this two-day activity.

KEYNOTE PRESENTATIONS

APEC Education Projects in ICT Area and the Holistic System Approach

YoungHwan Kim
President, Institute of APEC Collaborative Education, Korea, and Coordinator, APEC HRDWG Education Network

This paper aims at analyzing the trend of ICT-oriented APEC education projects for the last 10 years and suggesting the holistic systemic approach for the right utilization of ICT in education with its expansion.

ICT utilization in education has been one of the priority areas continuously emphasized in APEC Education Ministerial Meetings. According to the Education Ministers' recommendations, APEC economies have suggested various projects focused on ICT-oriented education such as 'APEC Network of ICT Model Schools for Future Education' and 'APEC e-Learning Training Program' by Korea, 'The Use of Information Technology in a Learning Society' by Singapore, 'APEC Symposium on Open Source and Open Course for e-Learning' by Viet Nam, and 'APEC ICT for Education Exposition' by Philippines. The research has shown that ICT is an emerging tool for education and ICT will expand its applicability in education in the future.

In this respect, as the ICT area in education is expanding, the researcher of this paper suggests the circular model for sustainable social and economic development in consideration of the dynamic communication among HRD, IT, and the tri-partization structure of government, academe, and private sector. As a holistic educational systemic change model, he introduces the APEC human network 'APEC Learning Community Builders: ALCoB."

Lastly, this paper emphasizes that the current knowledge-based society will move toward the virtue-based society with various phenomena such as innovation in education system in IT and experiential learning with nature and human.

APEC Cyber Academy: An International Virtual Learning Environment Founded on PBL and Game-based Learning

Chi-Syan Lin
Department of Information and Learning Technology
National University of Tainan
Chinese Taipei

APEC Cyber Academy (ACA) is an international networked learning environment designed specifically for K-12 students. The primary goal of ACA is to provide learner-centric, collaborative, ICT, and international learning experiences to K-12 students and teachers around the world. ACA hosts an International Online Contest annually. The contest is composed of three programs: the International Networked Collaborative Learning Program (NCLP), the International Information and Communication Technology (ICT) Cyber Camp, and the International Journalists. There are usually over ten hundreds of school students from APEC member economies participating online in this nine-week event. The paper outlines the programs and results of the recent event that took place on ACA.

ICT in the Global Era: The UP Open University Experience

Grace Javier Alfonso
Chancellor
University of the Philippines
Open University

In the past decades, our world has become smaller. The removal of trade barriers has enabled the easier movement of goods and services between countries. With the movement of goods and services come the passage of people and the exchange of ideas, culture, and practices that people bring along with them. As a whole, globalization has brought many benefits to humanity. It has opened up markets to enterprises, leveled the playing field, and in the process encouraged competition and innovation in the economic sector. In many cases, it has facilitated the transfer of technology between countries. In Southeast Asia, it has freed millions of people from the shackles of poverty.

Just as globalization can be a boon, globalization can also be a bane. Globalization seems to work like a double-edged sword - providing opportunities for exporters by opening up markets while threatening locally produced products with the influx of foreign goods. It sets out to create stability while at the same time causing social unrest by dislocating certain people from their jobs. It is characterized both by "Westernization" of market tastes and by customization of consumer needs. If there is any unifying thread to the concept of globalization is that it is all about change, a massive one at that.

As in other situations of immense changes, the key to survival is adaptation. This requires learning and un-learning skills and views within the context of the new paradigm. Since globalization operates in such a fast pace, the days of looking at education as something we do in the early stages of our lives no longer holds true. Acquisition of knowledge and skills becomes a lifelong process. As the socio-economic landscape changes, so do certain practices. The challenge now is to impart such knowledge and skills in a form that suits the demands and lifestyle of the global citizen. Given that globalization can either be a boon or bane depending on one's competitiveness, another challenge lies on how learning can be designed so that citizens can find opportunities out of the threats created by globalization.

Despite the great influence of globalization, it only tells half of the equation. On the other side of the coin is the formation of regional blocs around the world. Together with the establishment of the European Union, many regional blocs have been created – the North American Free Trade Area, the ASEAN, and the APEC, to name a few. True to the goals of globalization, regional blocs also promote free trade among its member countries by removing barriers and harmonizing trade standards and practices.

In addition, regional blocs have also promoted regional cooperation in non-trade areas like education, technology transfer, scientific research, the arts, and others. While globalization tends to encourage competition through the leveling of the playing field, the formation of regional blocs allows for cooperation to co-exist with competition. This, for me, is an opportunity where educators like us can come in.

THE UPOU EXPERIENCE

Allow me to share with you thoughts about the University of the Philippines Open University, popularly known as UP Open University or UPOU.

Except for a few internationally known universities, educational institutions have traditionally been focused on educating the citizens of their own countries. The University of the Philippines – which has recently been declared as the country's national university – is an example. UP has been known to be the educator of the country's so-called crème dela crème. For better or for worse, it has produced the greatest number of Philippine presidents. Majority of the national scientists and national artists have passed the halls of this institution.

In the 1990s, the university has realized that in order to remain relevant it has to expand its reach beyond its campuses in Diliman, Manila, Los Banos, Baguio and the Visayas, It must be noted that UP Mindanao was not yet established at that time. Thus in 1995 the University of the Philippines Open University (UPOU) was created to provide quality education to Filipinos who for one reason or another cannot attend classes in the traditional mode. The University of the Philippines found a key in distance education.

In UPOU's early years, lessons were imparted primarily through printed modules. Interaction between teachers and students were limited to the monthly face-to-face tutorial sessions held in UPOU Learning Centers. Twenty seven learning centers were spread out all over the country. By the end of the 1990s, internet use in the country became more widespread as the cost of internet connection began to go down. By 2001, UPOU attained another milestone when it began conducting online tutorials. We acquired IVLE (or the Integrated Virtual Learning Environment) – a learning management system developed by the National University of Singapore. For the first time, students from all over the country began interacting with one another through online discussion fora although today, through the new learning management system based on freeware twicked for UPOU learners in UPOU My portal, it expanded its reach. An additional UPOU Networks, which can be likened to a multimedia station online as a course delivery system using multimedia and rich media has likewise been established. Students who live even in areas far from UPOU Learning Centers can now access UPOU through its virtual learning center and the virtual classroom. A couple of years later, the accessibility afforded by the web led to an increase in the number of overseas students. And today our students are based in 69 locations in 43 countries all over the world. Filipinos abroad took the opportunity to enhance their professional competencies by enrolling at UPOU.

Around three years ago, UPOU marked another stage by adopting a resource-based approach to course development and delivery. Unlike the printed modules that tend to present lessons in a monologic way, this approach takes advantage of the wide array of online resources in the web. These resources were used not only to impart lessons but to provide opportunities for active and higher-order learning engaging the knowledge communities into active public discourse on national and international issues. The shift in approach took place at an opportune time. The rise in Web 2.0 in recent years led to a shift in the way people engage with the internet. From mere consumers of information, web 2.0 technologies like blogs, wikis, and social networking sites have allowed everybody to be authors and creators of information. UPOU responded to this change not by treating it as a fad but an opportunity to design learning activities around these resources. We have organized colloquia to discuss and debate these changes and their pedagogical implications. As a consequence, our teachers who are now experimenting on the use of social networking in combinations with popular and accessible platforms like MySpace, Multiply, Blog,Chikka Twitter, YouTube, Nexopia, Cyworld, Second World and the like are linking millions through rich media and multimedia helping create global teaching and learning communities. This resulted in the use of more collaborative learning activities and less of the recall type of assessment. It is also during this time, when the number of non-Filipino students began to add up. Students from countries like Ethiopia, India, Malaysia, Rwanda, Bhutan, Korea, Malaysia, U.S.A., Afghanistan, Liberia, Jordan, and number of other countries enrolled in UPOU.

In addition to this shift in online teaching and learning practices, UPOU has ventured into numerous international partnerships. Last year, the university sent a team of specialists to Ethiopia to assess the capacity of higher education institutions in this African country to offer programs via distance education. The team also recommended capacity building activities for this sector. We have also been working with several open universities in Southeast Asia to develop and jointly offer a master's degree in ASEAN studies.

Meetings have also been conducted to plan for the development of a master's program in international health. This degree program will cater to international health professionals in the region. It will draw its faculty members not only from the Philippines but also from the World Health Organization (WHO), the University of Melbourne, and other international agencies. Through the support of the World Bank and AusAid, UPOU has developed and offered a non-formal certification in land valuation. Plans are underway to forge reciprocity agreements with various countries to have the certification accredited outside the country.

LESSONS FROM UPOU EXPERIENCE

Now that I have shared with you our experiences in ICT and education, I would like to share with you some of my ideas about lessons that we can apply as far as ICT in education and regional cooperation are concerned.

ICT and global learning communities. We have seen how advances in ICT have allowed us to overcome the limitations imposed by time and space. ICT has not only enriched the learning experience of students, it has allowed people from different locations and even countries to interact with one another. ICT has enabled these learners to be exposed to a multitude of perspectives, experiences, and cultures. Such development has led to the creation of global learning communities. Regional cooperation groups such as APEC can therefore look into how ICT can be tapped to provide capacity building and human resource development services to its members by building global learning communities.

Flexibility of courses. ICT has not only connected geographically dispersed students, it has also provided our learners with flexibility. More than ever, our students can now access their learning materials and participate in learning activities whenever and wherever they are. In this competitive world, our learners need to be self-initiated, adaptable, information-seeking, creative, and team players. Our course offerings should be designed in such a way that they allow for self-directed learning, creative thinking, and collaborative learning. ICT, particularly the internet, has offered us the resources to do just that. In addition, it has made learning ubiquitous, which has made it accessible practically to everyone. APEC can consider how ICT can be used in preparing its next generation of citizens to be in tune to this fast changing environment.

Portability of courses. Our experiences with cooperating with international institutions have shown that joint development and offering of courses can yield several benefits. First, it allows for resource and expertise sharing. Second, it gives greater credibility to the programs by bringing together internationally renowned experts. Third, it makes international accreditation of courses easier. Considering the increased mobility of people in this new environment, people should not find it difficult to have the training they received in one country accredited in another. APEC can look into joint development and offering of internationally accredited courses.

Contextualization of courses. Although globalization attempts to standardize certain practices and requirements, it cannot be denied that there would be peculiarities in each area in terms of culture, resources, level of industrialization, urbanization, etc. This is especially in true in APEC where the gap between the developed and less developed members is marked. And so while international accreditation of courses is important, course content should reflect the local contexts. Differences in cultural values, historical experience, and economic structure across societies mean that some programs will emphasize certain topics more than others. APEC will have to find a balance between contextualizing knowledge and making programs that have universal appeal.

ICT Infrastructure. Lastly, the success of any online program rests significantly on the information and communications technology. Although there have been significant improvements in the IT infrastructure in the region, the level of ICT access and usage across member countries are still quite disparate. There is a need for the region to look for ways on how the disparity can be lessened.

Last words. Our experiences have shown that ICT can dramatically alter the way our students learn. ICT's affordances have made education more ubiquitous, flexible, more active, reflective, and participative. If properly handled, online learning can help develop skills that are responsive to the demands of the time – creativity and innovation, critical and problem solving, communication, collaboration, flexibility and initiative. It is therefore a potent tool for lifelong learning. But as I've also pointed out earlier, ICT is not the panacea to all our problems in education. There are issues – like portability and ICT infrastructure – that will be addressed through institutional and inter-governmental agreements and cooperation. APEC, as a regional cooperation body, can harness the comparative advantage of each member to help those that have fewer resources to maximize the potentials of ICT in equipping their citizens in this new global era.

Strategies for Introducing ICT in Higher Education

Cristina Kim Morla Chiong Kongfook
Director
Direccion Informatica Academica
Pontificia Universidad Catolica del Peru

Students in our campus today are not the people for whom our educational system was designed for. Higher education is still based on lectures where teachers control the learning spaces. Textbooks are the basic learning materials and students are supposed to study and learn by themselves what the professor has identified as relevant information.

Students today get bored when lectured, they want to learn not only significant things but also about real issues. They have their own particular interests and are expert users of current technological tools. Furthermore, they want to learn at their own pace and time. They understand that collaboration is key to learning. Today, teachers, students, learning materials, learning spaces can be and are distributed around the world. Thanks to technology, they are within the reach of our fingertips.

The strategies presented here were applied to a private university in Lima, Perú. Information Technology was primarily applied for both management (e.g. payrolls) and academic management (e.g. grades).

A few years ago, a new office was created at our university. The commission was to introduce the use of ICT for the process of learning and teaching -- the core business of our organization. In summary the process we followed considered four building blocks: 1) working with media to introduce image, audio, video as basic components of learning and teaching materials; 2) offering of different services such as blogs, wikis, and digital journals where different media were integrated for electronic publishing; 3) developing digital repositories where the intellectual property of our community would be safeguarded. For this part, we have been working with learning objects, repositories for thesis, using SCORM, etc.; 4) working with different approaches for videoconferencing, experimenting with Doud computing, providing remote lab access, etc. in order to achieve ubiquity, shortening distances, and keeping company in the process of teaching and learning.

Open source, Web 2.0, and open contents have been the drivers behind our development strategies.

ICT4E in the Philippines: Status, Issues and Prospects

Jesus Mateo
Assistant Secretary for Planning
Department of Education
Government of the Philippines
and President, ALCOB Philippines

INTRODUCTION

It is an honor to keynote this plenary session devoted to ICT4E undertakings of the host country for the 2010 APEC ICT4E Expo. ICT4E in the Philippines has always been a grand concerted effort among different institutions representing different sectors such as line agencies, the private sector, the academe, media, and the local government. In earlier sessions, we have been introduced to initiatives of the Commission on Information and Communications Technology, the University of the Philippines Open University, and the Asia Pacific College. This afternoon, we shall hear of others. I take pleasure in painting the big picture while showcasing the major initiatives of the Department of Education.

In the Philippines, and I suppose in the rest of the world, the use of the acronym ICT4E was derived from ICT4D or Information and Communications Technology for Development. The term ICT, itself, is hardly fifteen years old. Before 1996, what was most prevalently in use was IT or information technology.

There were three factors that influenced the shift from IT to ICT: firstly, the marriage of information technology and telecommunications in the form of the Internet; the spawning of revolutionary applications based on the World Wide Web, which required expertise not generally associated with IT; and the increasing recognition that the advent of new IT is transforming social processes that are often classified under the gamut of communication.

The following arguments have been forwarded by proponents of ICT4E:

Firstly, the Systems Argument. From the point of view of instructional systems, information and communications technology is not merely an aid but a necessity in today's teaching-learning environment. Among the first to benefit from digital technologies were presentation and instructional media. ICT has become a necessary element in instructional systems and instructional design.

Secondly, the Technological Argument. From the point of view of sociologists and historians, we are now in the third major age of human civilization -- the Information Age.

This was preceded by the Industrial Age that began with the development of the steam engine and the Agricultural Age that began with the development of the plough. The Information Age was heralded by the invention of the computer and the launching of the first telecommunications satellite, Sputnik. In the Information Age, information has become the primary resource and ICT, a primary asset. Each and every aspect of our lives, including education, is being increasingly influenced by ICT.

Thirdly, the Economic Argument. From the point of view of economists, that portion of the country's gross national product attributable to information-related activities is getting larger and larger. The number of our information workers is also increasing while the number of agricultural and industrial workers is decreasing. In other words, the Philippine economy is getting more and more information-based. Thus, information and communications technology must become an integral part of the basic education curriculum and delivery. Otherwise, the products of our schools will not be able to compete in the world of work.

When ICTs first hit the limelight in the development arena during the nineties, one of its most logical areas of application was education. Historically, educational communication, in general, and instructional systems technology, in particular, has benefited immensely from the arrival of new information and communications technologies compared with other development sub sectors. These benefits came as soon as the first PCs, laptops and digital presentation media were developed in the early eighties. Furthermore, with the advent of the World Wide Web, the marriage of computers and telecommunications offered an entire new range of possibilities to enhance the teaching-learning situation. Simultaneously, the realization that the world is turning into a global information society wherein information becomes the source of wealth and the most critical economic resource, has prompted development planners to support investments in ICTs.

The international development assistance community has since been actively endorsing ICT as a thematic area that cuts across all sectoral concerns such as agriculture, health, the environment, and most especially, education. Thus, almost every development undertaking proposed, funded and implemented contains an ICT component or element in the form of the design and development of information systems or the provision for public awareness employing digital tools.

Government policy and programs have also been quite supportive. To the Arroyo Administration's credit, a cabinet-level Commission on Information and Communications Technology has been established. ICT programs in every line agency have been supported by the GAA (Gloria Arroyo Administration) and financial injections from international funding agencies and the private sector.

The education sector, particularly basic education, is no exception. Since 1999, almost every project designed and implemented, be it funded by multilateral financial institutions as a loan or by bilateral agencies as a grant, contains an ICT component. Civil society has also been quite active in promoting ICT for education projects.

This supportive policy and program environment resulted in a situation that featured both advantages and disadvantages. Firstly, there are now several ongoing ICT4E initiatives coming from the international development assistance, government and private sectors. Secondly, this has spawned a wide array of stakeholders including industry, civil society, and even politicians. Attendant to this is the diversity of agenda, which may conflict at times in prioritization. Thirdly, there may be a need to harmonize these initiatives and agenda to fit into the ICT4E framework.

STATUS AND THRUSTS OF ICT4E IN THE PHILIPPINES

The thrusts of information and communications technology for education may be classified under three broad categories: ICT for Pedagogy; ICT for Teacher Development; and ICT for Education Governance and Management.

ICT for Pedagogy. There are three major concerns under ICT for Pedagogy. Firstly, there is the primary issue of access and equity to hardware, software and services. Secondly, information and computer literacy in rural and remote areas presents a formidable problem. Thirdly, the provision of educational content in digital teaching and learning environments, which conforms to the standards set by the Basic Education Curriculum, is limited.

ICT for Teacher Training. Several initiatives are already being undertaken locally to make use of ICT for teacher development. Nongovernmental organizations such as the Foundation for IT Education and Development (FIT-ED), Partners in Learning (PiL), and Philippine Business for Social Progress (PBSP) have spearheaded ICT training for teachers. The private sector, exemplified by Microsoft Philippines and Intel Technology Philippines, is actively sponsoring such programs also. Currently, the Commission on Information and Communications Technology is conducting a program on computer literacy for teachers through their Web Board facility. Additionally, DepEd has undertakings for ICT teacher training in collaboration with international organizations such as UNESCO, UNICEF, and APEC, not to mention specific components of ADB and World Bank projects.

ICT for Governance and Management. Information and communications technology is providing major benefits to the Department of Education as an organization, in particular, and the education sector, in general, by contributing to: efficiency of operations; transparency of transactions; speed of service provision; effectiveness of evaluation; and accuracy of advocacy thrusts. The strategy paper will explore these potential contributions.

ISSUES

However, there are a number of issues and concerns associated with ICT4E.

Technical Issues. Concerns related to the technical aspects of ICT4E include: readiness, cost-effectiveness, and standardization.

Is the public school system ready for computerization? Perhaps this can be answered in the affirmative among the network of national high schools and science high schools in the country. But for the majority of public schools, particularly elementary schools in far-flung areas, readiness is still an issue. The inadequacy of the infrastructure is evident in the poor condition of many classrooms, not to mention the lack of classrooms. The lack of utilities is evident in the lack of electricity in many areas, not to mention landlines for dial-up services.

Related to readiness is cost-effectiveness. Although hardware and bandwidth is getting cheaper by the day, software is getting more expensive. The combined costs of hardware, software, bandwidth, and services is still relatively high vis-a-vis other educational products and services. The current per capita investment on basic education may have to be doubled to achieve widespread computer/ information literacy/fluency, something that cannot be possibly done in the foreseeable future given the current state of affairs. This is further complicated by the fact that the return on investment on ICT4E is neither tangible nor immediate.

Lastly, under technical considerations, there is the issue of standards. The choice for the more common information technology applications such as office suites, databases and Web tools are ruled by de facto standards. With the clampdown on software piracy, these de facto standards are costing fortunes for licensing and hardware key fees.

Content Issues. A more debatable issue is the need for content. A decade of ICT4D experience underscores such a need. Past investments on technology (i.e., hardware, software, connectivity) without content have many times led to systems unpopulated by data.

Networks thrive on content. Without it, systems are useless. After the first decade of ICT4D, a major lesson learned by the development assistance sector, particularly the UN agencies and the World Bank, is that investments on content and capability building should be significantly larger than investments on infrastructure. According to some estimates, for every dollar invested on ICT4D, ten cents should go to infrastructure, another ten cents should go to software. Still another ten cents should go to training. But the remaining 70 cents should be spent on content development.

On the other hand, there is a school-of-thought that submits that all the content that one would ever need is found in the World Wide Web. As discussed in the previous section, some of the participants suggested that DepED need not invest in curriculum and content development but more on instructional design. Indeed, the Web is potentially the only source one would ever need for general information.

Nevertheless, instructional design is part and parcel of curriculum development. In the same vein, identifying and collating Web pages, or compiling metadata, are part and parcel of content development. Hence, one cannot do away entirely with curriculum and content development in spite of the World Wide Web. In the same manner that one cannot do away with teaching guides in spite of the presence of textbooks in basic education.

Furthermore, there is the question of appropriateness of content. Does information contained in the Web conform to the standards and specifications of the approved Basic Education Curriculum? Is it suitable for the Filipino grade school or high school users? Is it packaged for learning purposes? These questions lead us to the next category of concerns.

Utilization Issues. Appropriateness is not only a content issue but a technology issue as well. A common inaccuracy among practitioners is to consider ICT as exclusively digital. And yet, historically, ICT ranges from low end to high end, from the analog to the digital.

The first educational communication technology project in the Philippines funded by the World Bank was the Communication Technology for Rural Education (CTRE). The project made use of AM radio. Traditionally, communication technology is referred to as overhead, opaque and slide projection hardware, demonstration media, two-way radios, closed circuit television, small format video, and open broadcast radio and TV. Nowadays, it encompasses personal computers, cellular telephony, imaging technology, cable television, digital photography and videography. However, ICTs still encompass the older, more traditional media.

Given our existing realities and imperatives, which ICTs are more appropriate in the Philippine rural setting? Shouldn't there be an acceptable use or appropriate use policy for ICT that situates a specific educational application within the low-end, high-end spectrum?

Program Issues. Then there are concerns related to current ICT4E program rationale and design. What are the determinants of the elements of a program design? Are these based on assessed needs or are these donor-driven? Are these determined by social agenda or are they technology driven?

Many of the bilateral ICT4E projects currently being undertaken may indeed be described as technology driven or donor driven. There is nothing wrong with such projects particularly if they are funded by grant money. However, the relevance and sustainability of the undertaking would be immensely enhanced if the impetus for the project came from a real and felt need.

PROSPECTS

ICT for Pedagogy. The key features of ICT that make this class of technologies important to basic education in the Philippines are: its ability to transcend geographical barriers; its novelty, particularly in remote and rural areas; its versatility; its ability to replicate materials at almost no cost; and its programming languages. The lack of classrooms in remote and rural areas may be remedied by ICT delivery modes, i.e., distance learning. The cost of reproduction of audio-visual aids will be drastically lowered with the use of ICT-generated and projected materials.

ICT for Teacher Development. A computer literate workforce can only be produced by an information and computer literate teaching complement.

ICT and the Teaching Profession. Teachers should adopt ICT not only as a tool for teaching and as a subject matter area to teach but as a means for professional development as well. As the CHED minimum standards for teacher education provides, computer literacy is a must in the teaching profession. The minimum level and scope of computer proficiency appropriate for teachers would be limited to the following applications: word processing; desktop publishing; spreadsheets; presentations; messaging and collaboration; and Web browsing. Intermediate skills should include: database applications; online teaching and facilitation; and multimedia skills. Advanced skills involve: programming; and hardware maintenance.

Teacher Training. Teachers should acquire this proficiency by: self-learning; short-term training; and enrolling in formal and nonformal computer courses, including courses offered in the distance mode. A targeted approach to teacher development on ICT involving all three methods should be implemented first involving teachers from regional science and science-oriented high schools and special education schools; followed by voc-tech high schools, national high schools, and then public elementary schools.

Teacher Training Needs. The following teacher training needs have been identified: basic computer applications; Web browsing; and the design, development and utilization of ICT-enhanced instructional materials. It was likewise apparent that much of the ICT teacher training currently being undertaken does not consider the entire basic educational teaching complement as a system with strategic nodes. Teachers who may generate the most multiplier effect are not targeted.

ICT for Pedagogy and Teacher Training. In this case, it should also be underscored that the transformative power of ICT is more likely to be realized when it is introduced in the context of radical system-wide reform. ICT for teacher development should be linked with ICT for pedagogy so that one will draw synergy from the other. Thus a systems approach to ICT4E is more strategic and cost-effective in the long run.

ICT FOR GOVERNANCE AND MANAGEMENT

ICT for Governance and Management brings together all past, present and future initiatives dealing with the improvement of management and the provision of educational support services. As mentioned earlier, information and communications technology will provide major benefits to DepED as an organization, in particular, and the education sector, in general, by contributing to: efficiency of operations; transparency of transactions; speed of service provision; effectiveness of evaluation; and accuracy of advocacy thrusts.

Integrating ICT in DepED's Institutional Development. ICT cuts across all horizontal and vertical dimensions of operations and it should be integrated in all aspects of the organization. ICT should support a decentralized decision-making process by providing the communication infrastructure within the organization. From a functional standpoint, DepED should acquire the following capacities: systems maintenance; messaging and collaboration; database applications; Web browsing and publishing; documents management. It may outsource: systems design and development; content development; and multimedia production. More importantly, DepED's capability to manage and coordinate ICT4E should be built and strengthened.

ICT for School-Based Management, Quality Assurance and Budget Reform. School-based management would profit immensely from: database applications; sharing and reuse of instructional materials; template provision and assessment of School Improvement Plans; and messaging and collaboration. Quality assurance may also be enhanced by: database management; messaging and collaboration.

Similarly, budget reform may be supported by: computerization of financial records and transactions leading to transparency; and monitoring and evaluation systems.

Linking ICT for Pedagogy, Teacher Training, Governance and Management. ICT for pedagogy and teacher training should be integrated with ICT for governance and management. We recommend an integrated system employing service-oriented architecture (SOA) that links learning management systems with management information systems.

ICT for Governance and Management should cover not only monitoring and evaluation but the entire gamut of concerns under ICT for governance and administration. The DepEd itself is one of the largest bureaucracies in the public sector with the attendant tendencies for paper trails, inefficiencies and corruption. An integrated system may address these problems leading to: a paperless office; transparency of transactions; efficiency of operations; speed of service provision; and effectiveness of evaluation. This brings us to the current debate about the merits and demerits of an integrated system.

Many of the information systems adopted by offices within DepEd have developed independently from one another. For instance, the payroll and procurement system has very little to do with the Basic Education Information System. Obviously, scrapping these systems in favor of a newly designed integrated system would not be an option considering the expense that was put into these so-called legacy systems. Furthermore, they are still being actively utilized. The situation requires a solution that would interface these fragmented systems without disrupting them. In other words, we are proposing a service-oriented architecture (SOA) that makes use of data warehousing. Additionally, this meta-system should go beyond the provision of information but should focus on knowledge management. The knowledge management approach provides material and non-material incentives for information sharing and reuse, thereby transforming the organizational culture of DepEd.

CONCLUDING STATEMENT

The National Framework Plan for ICT in Basic Education states that the transformative power of ICT is more likely to be realized when it is introduced in the context of radical system-wide reform, integrated rather than fragmented. The integrated approach continues to guide the initiatives of the Department of Education as it does the entire ICT4E movement in the Philippines.

PANEL PRESENTATIONS

Korea APEC Projects and Outcomes

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This paper presents the Korea APEC projects in education and HRD area that IACE (Institute of APEC Collaborative Education) has been promoting with APEC member economies. IACE, established in 2002 under the support of Korea Ministry of Education, Science and Technology, is currently implementing three official APEC projects in APEC HRD Working Group: APEC Learning Community for Shared Prosperity, APEC Future Education Consortium, and APEC e-Learning Training Program.

Firstly, APEC Learning Community for Shared Prosperity project, endorsed in 2003, aimed to promote educational collaboration and narrow the digital divide for shared prosperity within the APEC region through online/offline cooperative activities based on the ALCoB Community. ALCoB is the solid foundation of human network consisting of teachers, learners and supporters from government and private sector. This project consists of their voluntary and autonomous activities such as ALCoB Cooperative Projects, ALCoB Online Community, International ALCoB Conference, ALCoB Internet Volunteers (AIV), and APEC Collaborative Education Journal (APCJ).

Secondly, the project APEC Future Education Consortium, endorsed in 2004, aims to set up the ideal model of future education through implementation of e-Learning as a way of human capacity building. Also, it is to take up the challenges of IT-based future society based on the know-how and experiences on narrowing the digital divide. Principal activities consist of APEC ICT Model School Network, APEC Future Education Forum, and APEC Future Education Report.

Thirdly, APEC e-Learning Training Program, endorsed in 2005, also ultimately aims to narrow down the digital divide for APEC shared prosperity by providing an effectively blended online/offline e-learning training curriculum based on PBL approach. The training program has three objectives: 1) providing high valued and customized curriculum; 2) disseminating information of the best e-learning policies and practices; and 3) promoting international collaborative projects in education. The program consists of online pre-training, lectures, collaborative study, field training, and online post activities.

Lastly, this paper concludes that with more structured system of international ALCoB network based on meaningful volunteerism and valuable cooperation, IACE and Korea Ministry of Education, Science and Technology will continue their efforts to contribute in narrowing down digital divide for shared prosperity within the APEC region.

eSkwela: ICT for the Alternative Learning System

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The eSkwela Project is a flagship project of the Commission of Information and Communications Technology (CICT) together with the Department of Education-Bureau of Alternative Learning System (BALS) that provides ICT-enhanced educational opportunities for the country's out-of-school youth and adults. Funded initially by the APEC Education Foundation (AEF), it currently gets its funding from the e-Government Fund provided by the National Government.

Under this project, community-based e-Learning Centers are being established across the country where ICT-supported alternative education programs are taking place. With the use of relevant interactive e-learning materials, blended and collaborative modes of instruction, and performance-based assessment in a problem/project-based learning environment, it seeks to bridge the widening digital divide and social chasms between those who are educated and those who are not.

Through a multi-stakeholder approach, the communities are expected to participate intensively in the project by setting-up, managing, and financing the center's operations as well as providing support for community-based projects.

Having served an estimated 2,500 learners since 2007, the eSkwela Centers around the country are living testimonials to the potentials of ICTs in education. Currently with 27 sites, eSkwela is the largest initiative of its kind in the country. The effects are felt where it matters most: in the marginalized poor, with housewives, with the disabled – sectors that have traditionally gotten the short shrift in the one-size-fits-all arena of formal education. The project was cited by UNESCO through a Certificate of Commendation from the ICT in Education Innovation Awards 2007-2008.

CICT-HCDG also partnered with various State Universities and Colleges (SUCs), local governments, DepEd divisions, non-government and civic groups, and communities to extend the reach of eSkwela to other areas in the country.

The presentation discusses the challenges, successes, constraints, and opportunities experienced by the team in advocating/promoting, implementing, and sustaining the Project.

ICT in Basic Education in China

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Many efforts have been made for ICT applications in basic education in People's Republic of China today, especially in the aspects of ICT infrastructure and regional boosting for ICT applications in teaching and learning process, and also for teacher's professional development in ICT competence. However, we still face many issues with respect to ICT applications in basic education. Some of these are how to popularize and improve the use of ICT in education, how the high quality educational resources can be shared, and which kind of method and action is more effective for boosting ICT in education? In this paper, a national long-term plan for education reform and development is described. Educational Technology Regional Boosting (ETRB), an action plan as a case study involving reasons, solution, implementation, results, and further considerations, are also discussed.

ICTs in Schools: A Developmental Matrix

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Schools around the world are seeking to integrate ICTs into learning with varying degrees of success. Those schools making the most progress have a clear idea of the critical components of ICT infused change and the developmental goals for each component. Successful schools can identify their current position, along with their next steps in the areas of: ICT strategic leadership; learning and teaching; teacher professional learning and infrastructure.

In this session, Dr Coogan presents a matrix which shows the developmental pathways from ICT-emergent to ICT-prepared to ICT-enriched to ICT transformed schools. He also provides examples to illustrate what progress looks like at the various stages for each area, along with some of the enablers of and barriers to innovation. Then participants are asked to explore each component in the context of their own jurisdiction or school, before determining their next developmental steps toward a transformation of learning supported by ICTs.

OLPC in Peru: The Real Meaning of Education Quality Improvement

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The Ministry of Education has implemented the One Laptop Per Child Program (OLPC) in order to achieve equity and to improve the quality of education in rural areas of our country.

The program gives more priority to rural areas for the following reasons:

1. In these areas the education quality of the population has been always very poor, creating a problem of injustice and social exclusion which is older and deeper than in urban areas; and
2. The increasing digital divide threatens the rural population with marginalization and increases their frustration which might evolve into violence if not taken care of by offering educational opportunities to upgrade knowledge and skills required to succeed in the 21st century.

THE TRUE MEANING OF EDUCATION QUALITY IMPROVEMENT

One of the key factors to achieve education quality is for learners to understand why they should learn what we expect to learn. Intrinsic motivation is a fundamental component to quality in education because it engages students in their school work in spite of limiting situations like poverty, poor educational infrastructure or teachers' competence. It has been noted that ICT contributes to increase intrinsic motivation in schools. The recent publication *Are the New Millennium Learners Making the Grade?* by OECD finds positive correlation between frequent use of computers at home and good school performance, whereas there seems to be no positive correlation between frequent school use of computers and good school performance. Without attempting to explain the underlying factors for the said findings, it seems giving computers to students for use at home was a movement in the right direction. The OLPC project aims also to reduce the educational gap between rural and urban areas, as well as to provide the poorest students from remote areas with access to technology.

In countries like Peru, all use of technology should be matched with learning opportunities for the poorest since it enables to get results with lower costs. A single computer has several uses (library, telephone, mail, news, notebook, video and music player, calendar, etc).

THE SITUATION

From the total number of schools in Peru, nearly 10,000 are multigrade and single teacher schools. Both students and teachers have a very poor level in key areas (Mathematics and Reading Comprehension).

Low levels of income perceived by teachers and lack in their education and training, together with a strongly politicized union are negative factors for their performance.

Students, parents and teachers perceive that education provided in school does not correspond to their reality and does not help them much. The education received by students does not justify the efforts made by many of them who have to walk nearly four or five hours to get to school.

The problems related to the lack of expectations, lack of books or any kind of technology and meaningless education, make that this population, pertaining to poor and extreme poor groups, has smaller opportunities to improve their living conditions. In this situation, the Government has undertaken the development of programs such as OLPC, The Technological Resources Center (library of digital resources and services in each primary school) and Pedagogical Innovation Classrooms (computer labs for learning – Secondary school) in order to integrate ICT into the teaching and learning process.

For this purpose, the program seeks to update and strengthen the teacher's role in the educational institutions in rural areas, providing them with a gateway to the world of technology, and distributing more than 600,000 XO laptops designed as educational tools to cater the very specific needs of elementary education students around the world.

The XO laptop computers are rugged, inexpensive, with technological features so advanced many of them are not available even in computers sold for thousands of dollars. They are also extremely durable for children who use them at homes and schools in the Coast, the Andes and the Amazon region, 365 days a year.

Which regions will be given priority?

Twenty regions in the country will be given priority due to their higher percentage of rural single teacher, multigrade schools, leaving for the next phase the six regions with the less number of students in this type of schools.

Why giving more priority to rural areas?

This Program gives more priority to rural areas for the following reasons:

- In these areas the education quality of the population is very poor, creating a problem of injustice and social exclusion.
- The growing revolution in the field of technology and the international knowledge society are still in course and threaten to leave away those who are not able to upgrade their knowledge and skills as required.

In other words, if children in rural areas do not receive the quality of education required today, in the near future they will neither be able to understand nor take advantage of the world in which they live in, being condemned to have smaller opportunities for personal and professional development and a better quality life. This situation is an increasing threat to sustainable peace and democracy.

CONTRIBUTION OF THE PROGRAM

The One Laptop Per Child Program has been implemented as a key policy to achieve equity and to improve the quality of education. In this context, the contributions of the program are as follows:

- **Scope of the Program in Impoverished Areas**. This program will benefit 100% of elementary education students in rural and impoverished areas. This means that the program will provide more than 1,000,000 children with digital opportunities for them and their families in the first stage. The second stage will reach 3,000,000 children by the beginning school year 2011.
- **Creation of a Digital Teaching Environment**. Increasing learning hours in students (24 hours); integrating family members into the education process; developing a continuing education that strengthens the skills for the 21st Century *Learning to learn*; critical and creative thinking; problem-solving and decision-making.
- **A Better Vision of the World**. Significant contribution shown in testimonies given are as follows: Children want to be better; to know other cultures and to be more motivated to learn, innovate and experiment.
- **Government's Commitment and Support**. This program is supported by the Central Government and creates a great synergy with Local and Regional Governments.

FIRST OUTCOMES

The Ministry of Education has developed performance tests focused on reading comprehension and motivation which have been taken by students of elementary education schools benefited in rural areas. After a few months, results are as follows:

- Children have shown an increase in their interest to go to school.
- They enjoy doing what they like and they are happy because of things they discover everyday.
- Children show they really care about what they are doing. They are motivated and satisfied when they do a good work.
- They feel that their effort to learn more and discover new experiences is worthwhile.
- A significant increase in the participation and communication with their teachers has been shown.
- Children show an increase in the level of self-confidence and an improvement of interpersonal relations and social integration.

Preliminary results also show dramatic increases in reading comprehension level and problem solving skills.

PROGRAM SUSTAINABILITY AND SCALABILITY

- Integration into the National Education Project objectives and curricular plans of the regions makes it easier for local governments to expand the program.
- A sound “teacher-to-teacher” cascade training strategy ensures growing numbers of teachers will use the program to improve their classroom work.
- Applicable and region-based teaching proposal.
- Central support facility with national and regional satellite support centers guarantees sustainability.
- Government commitment to support third party efforts to expand the program reach facilitates private enterprises’ corporate social responsibility programs to contribute in expanding the program.

APEC Human Resources Development Knowledge Bank Library and Wiki

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The APEC Human Resources Development Working Group Knowledge Bank Library and Wiki support the Human Resources Development Working Group goals of sharing knowledge and resources to strengthen education, labor, social safety nets, and the capacity of organizations. The Knowledge Bank websites provide resources developed by and related to human resources development working group projects and its subsidiary networks including the Capacity Building Network, the Education Network, and the Labour and Social Protection Network.

This project began in 2002 with the Knowledge Bank Library and Education Network Portal primarily serving as a resource for the Education Network. The project now consists of the Knowledge Bank Library and Knowledge Bank Wiki supporting all networks in the Human Resources Development Working Group.

The integrated web strategy for the Knowledge Bank Library and Knowledge Bank Wiki is such that the Knowledge Bank Library is the primary storage vehicle for project papers and publications and the Knowledge Bank Wiki provides summary and synthesis information to tell a story about APEC's human resources development working group and its key education and labor topics.

APEC project participants are eligible to become APEC Wiki contributors who have the ability to edit existing pages or add new pages. This Wiki platform thus allows for further cooperation among project participants long after projects have officially been completed.

ICT4E: An Inquiry on Policy and Practice in Southeast Asia

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The Southeast Asian Ministers of Education Organization (SEAMEO) is an intergovernmental association of 11 education ministers of Southeast Asia, 8 associate members from regions outside Southeast Asia and 3 affiliate member institutions. SEAMEO was established for the purpose of "promoting cooperation among Southeast Asian nations through education, science and culture in order to further respect for justice, for the rule of law and for the human rights and fundamental freedom which are the birthrights of the peoples of the world."

For this purpose SEAMEO established 16 regional centres hosted throughout the region whose mandates are defined in the centre's enabling instrument. The regional centres help SEAMEO member states achieve "Education for All (EFA)" and Millennium Development Goals (MDG) targets for 2015. Among the SEAMEO regional centres, three have specialization and expertise in the field of Information, Communication and Technology (ICT). These are the SEAMEO Centre for Vocational & Technical Education (VOCTECH) hosted in Brunei Darussalam, the SEAMEO Centre for Open Learning & Distance Education (SEAMOLEC) hosted in Indonesia and the SEAMEO Centre for Educational Innovation & Technology (INNOTECH) hosted in the Philippines. VOCTECH's mandate is to provide technical assistance on various aspects of technology hardware. SEAMOLEC's mandate is to provide a variety of educational resources for use of students, teachers and other education personnel. INNOTECH's mandate is to provide technology-based and innovative educational solutions to the problems confronting the SEAMEO member states.

The paper on ICT4E inquired into the policy and practice in Southeast Asia. There are two main points discussed, namely: (1) technology integration and (2) technology application for education. The latter includes utilizing technology to inform policies, to manage educational systems, to improve teaching and learning practices and to assess impacts and report on learning outcomes.

Reference was made to the UNESCO-APEID Model of ICT Development in Education that was developed in cooperation with SEAMEO. In the model the stages of ICT usage and pedagogical usage of ICT were defined from which were determined the various levels of ICT development of the SEAMEO member states. The suggested levels were (1) emerging level (2) applying level (3) infusing level and (4) transforming level. A summary of country groupings was also presented although clarification was given that the country groupings were not absolute but only indicative of the level of ICT development.

In the last section a presentation was made of the educational solutions provided by SEAMEO INNOTECH that included four flagship programmes such as: 1) T2T or Text to Teach, 2) eXCELS or Excellence in Leadership for School Heads in Southeast Asia, and 3) eCOMPETE or Competency-Based Learning for School Teachers in Southeast Asia.

Telecentre.org Academy: Preparing 1 Million Knowledge Workers by 2015

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Telecentre.org Academy is a flagship function of the Telecentre.org Foundation that aims to address the capacity needs of telecentre stakeholders. The stakeholders include: a) government policy-makers, bureaucrats and decision-takers who influence decisions around eGovernance and telecentre work; b) telecentre network leaders and orchestrators who implement telecentres around the world; and, c) the telecentre operators themselves who staff thousands of grassroots telecentres.

The capacity needs of telecentre operators range from soft skills to technical skills to basic IT skills and service-specific skills. The Academy together with 14 universities around the world will train one million such people at the grassroots level. First time ever such a huge capacity building program at the grassroots level has been conceived. APEC nations are invited to take advantage of this initiative.

The courses are offered at certificate, diploma and degree levels. Through a consortium of universities formed to support the Telecentre.org Academy, the students will be able to benefit from credit transfer and also be able to access other courses offered by any of the participating universities. For those typical grassroots level telecentre and knowledge workers, access to university education would otherwise be difficult. The Telecentre.org Academy therefore is a great opportunity for those who work at the community level.

APC's Initiatives and Experience in Adopting Moodle as LMS in Higher Education and Sugar Learning Technology

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For the APEC ICT4E Expo 2010, Dennis Reyes, the Academic Program Director of Asia Pacific College's (APC) School of Computer Science and Information Technology (SoCSIT) presents its initiatives in adopting Moodle as the Learning Management System (LMS). The paper presents the experiences and recommendations from the faculty, students, and partners in using Moodle. A case study of the test scores for ITCONCE (IT Concepts), a foundation subject, is presented and traces the improvements seen by implementing blended e-learning methodologies in class.

The paper also introduces Muscovado, a Commission on Higher Education (CHED) - funded project for select high schools. Muscovado is based on the award-winning Sugar Learning platform. Muscovado aims to create a rich learning environment that empowers Language and Math instructors to teach their subjects better than they could before by using e-learning methodologies. The project also aims to distribute 30 laptops to students from the adopted high schools as prizes in selected contests sponsored by APC. Twelve instructors from selected Higher Education Institutions (HEIs) will be trained in new technologies in e-learning and open source technologies. By using Sugar CRM and Moodle, the project aims to develop content to improve local learning. They are encouraged to adopt ninety (90) local high school students from three selected high schools as co-learners with the goal of contributing to the content suitable for Philippine primary education.

SCM Practices in Higher Educational Institutions

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The costs in higher education are increasing and need to be controlled. This paper aims to demonstrate what lessons higher educational institutions could learn from practicing efficient and effective supply chain management (SCM) practices.

Supply Chain Management (SCM) is now a fact of life. It is also a dynamic entity that is constantly changing and evolving in response to changes in technology, competitive actions, and customer demands. Supply chain managers recognize that their role has moved from being tactical to being strategic. SCM can be categorized into four segments: strategic concepts, logistics and distribution, information technology, and supplier collaboration. The company's technology, outsourcing, and collaboration practices are particularly useful in higher education.

The current practice of SCM application is based on examining data reported from survey of SCM applications in the engineering colleges of Tamilnadu, provided by 31 engineering institutions in Tamilnadu.

The adoption of SCM's best practices was investigated for only one service industry (higher education). Future research could apply these practices to other service industries, such as hotels and transportation.

Practical Applications - The findings will show light on the potential areas and ways by which the educational institutions can successfully implement SCM systems to achieve competitive advantage.

CPSC Innovative Blended Learning

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This paper seeks to provide a better understanding and appreciation of the role of Colombo Plan Staff College (CPSC) along with its achievements in integrating ICT in TVET systems across the region. It first tackles the mandate of CPSC, mission, vision and current member countries to enlighten participants on what the institute does. Equally important are the focus areas CPSC are making programs and projects for.

The institute has been able to deliver quite a number of online web-based teaching and learning systems that have been in use since 2004 on different topics from our focal areas. This Learning and Management System (LMS) shows CPSC's capacity in ICT. A summary of ICT-related programs and projects is also discussed including the launch of the Innovative Blended Learning Center and the recent partnership with UNESCO-UNEVOC's for promoting TVETipedia.

All in all, the paper offer some guide strategies on implementing ICT from a technical standpoint. Region-specific issues when it comes to providing ICT4E are also discussed as given by CPSC participants during ICT-programs. As a conclusion, the paper shows ICT-related projects in the pipeline which will benefit the whole region in teaching minds, touching hearts and transforming lives.

ICT-Supported Distance Education towards Lifelong Learning for All in Asia

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This presents two Asia-wide research and development projects in distance education (DE) funded by the International Development Research Centre of Canada. The PAN Asia Networking Distance and Open Resource Access (PANdora) project implemented in 2005-2008 examined the use of various emerging information and communication technologies (ICTs) in tertiary and lifelong education in 12 Asian countries to promote more affordable DE. The Openness and Quality in Asian DE project, a follow-up to PANdora being implemented from 2010 to 2012, looks at the extent to which ICT-supported DE, including the use of open educational resources, can be a viable means for expanding openness and access to skills training and lifelong learning for remote, rural and marginalized communities in Asia.

One Laptop per Pacific Child: Building Momentum for Change in the Developing World (A Field Report)

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The Pacific theatre for One Laptop per Pacific Child (OLPC) is made up of 22 very diverse nations: from the densely-populated highlands of Papua New Guinea to the remote outlying islands of Tonga; from tribal kingdoms to young democracies to military juntas; from enthusiastic political leaders to committed career bureaucrats; from dedicated educators to inspiring ICT-for-development field workers.

There is also a social cohesion and shared history in the region that lends itself to a regional approach to introducing new technology like OLPC. In the Pacific context, OLPC is being framed as a catalyst to encourage policy makers, governments and bureaucracies (both state and non-state actors) to focus on delivering better quality education, and at the same time to creating community level demand for that better quality.

The presenter outlines progress in integrating OLPC into the policy frameworks and within the realpoltik of the Pacific, of operational development agencies, and into the regional and international "political architecture", all within budgetary prism of the "global financial crisis". The audience is reminded of some of the "real world" issues involved in advocating radical technological change for good, rather than a list of plausible future scenarios.

Impact of Branding in Higher Educational Institutions: Indian Perspective

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Dean
Academy of Universal Global Peace, India

This research aims to measure the impact of branding in higher educational institutions (HEIs). If you don't build a brand as quickly as possible, someone else may take the position that you want. These words of Donald, a brand strategist, are just a hard fact but it reveals the reality that they are worth a lot of money for any Institution. On the other side higher education is also widely deemed and considered as a great national asset. In this research paper we aspire to measure the impact of branding (institutions asset) in higher educational institutions (national Asset).

Based on the recommendations of extant research, the scale is constructed to measure the impact of branding in HEIs with special reference to the engineering institutes in Tamilnadu, South India. It includes the signals/attributes of education brand and the impact is measured through its different set of items. The present study used a sample of 300 students from different parts of Tamilnadu (stratified sampling method). Linear regression modeling is used to measure the impact of branding across six signals of education branding.

It is clearly proved from the results of the analysis that branding has an ideal impact on Indian HEIs.

ICT Integration for Basic Education: Facilitating and Impeding Factors

Maria Ana Quimbo
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Los Banos, Republic of
the Philippines

The paper discusses the characteristics of and circumstances facing the present generation of learners and how their learning needs and requirements are met by today's learning environment. Technology has been identified as a key factor that could meet the unique demands of this new breed of learners. Key factors that facilitate and hinder technology integration in basic education classroom instruction both at the individual and institutional levels provide the highlight of the study. The paper concludes by presenting the results of an empirical study on the impact of information and communication technology (ICT) integration in basic education curriculum. A set of recommendations is likewise forwarded that will guide educators, administrators, and policy makers on how to effectively implement a technology-enhanced classroom instruction to address the learning needs of present generation of learners.

Minimizing the Digital Divide in Science and Mathematics Education

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In this modern time when advertisements are flooded with upscale and newest style and versions of cellular phones, computers, laptops, and other technology-produced gadgets; there is a gaping digital divide that lingers among nations and within individuals. The International Telecommunications Union (ITU) estimates that around one billion people worldwide are still experiencing difficulty in having access to any kind of information and communication technology (ICT).

The Philippine government implements programs and projects to bridge the digital divide in the country. Being archipelagic in land formation, collective efforts of national agencies are called upon to make ICT accessible to every Filipinos. In the Department of Science and Technology (DOST), the Science Education Institute (SEI) plays a catalytic role in the development of innovative ways to teach and learn Science and Technology (S&T) to improve the quality of science education in Philippine schools.

This paper intends to present SEI initiatives to address the digital divide in science and mathematics education in the country. SEI believes that making teachers abreast with the use of ICT in teaching will definitely assist them in delivering their essential roles in the learning of students. Programs for teacher enhancement include National e-Training Program for Teachers in Elementary and Secondary Science and Mathematics, Development of Computer-Based Teaching (CBT) Modules, Collaborative ICT Training Program for Teachers, ICT Learning Assisted Program and Digital Electronics Design Camp with Blended Learning Component. There are also activities being participated both by the teachers and students: Science, Mathematics & Engineering Camp and Training Program on New Technologies and IT Applications: Embedded Systems and Robotics. Youth competitiveness in ICT is showcased through friendly competitions like Youth Web Designers Competition and the International Programming and Micromouse Competition. Another flagship project of the SEI is the Mobile IT Classroom, a classroom housed in an air-conditioned bus with ICT facilities, which was conceptualized to reach out far flung areas in the Philippines. The agency also assists in the development of ICT infrastructure of regional science teaching centers. These programs and projects serve as benchmarks and models in conceptualizing and implementing possible programs to further narrow, if not close, the gap in ICT.

eTESDA: Expanding Access and Opportunities to Quality TVET thru ICT

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Technical Education and Skills Development Authority
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eTESDA is aimed at making TESDA TVET services available anywhere, everywhere, anytime and all the time for every Filipino to meet the challenges of the times. TESDA is the authority in supervising technical education and skills development in the country. The eTESDA project has two (2) major components: the eTESDA Portal and eTESDA Centers.

The eTESDA portal will broaden access and opportunities to quality TVET by bringing TESDA services to as many of its clients as possible. The services will be provided online, to wit: career profiling, elearning, assessment and certification and career information/job referral services.

With e-learning provided in the eTESDA centers, the project will be able to standardize and ensure quality of delivery of technical education and training in the Philippines. With the eTESDA centers, TESDA technology institutions will be able to increase their absorptive capacity. With the use of ICT in providing the basic and common competencies, including the knowledge attributes of the skills training programs, more people may be accommodated by the TESDA facilities equipped with computers and internet connection. The eTESDA Centers will also operate as e-learning hubs and as community ecenters.

There will be a community of e-learners and trainers thru the virtual campus and the TVET trainers' development portal, respectively.

The presentation included TESDA's current undertakings and accomplishments towards the attainment of the goals. The project is not without challenges, which if successfully hurdled will make it the leading initiative of its kind in this part of the world. A major challenge is the dearth of content, or lack of available online courses. There is a need for TESDA to develop online courses according to its training regulations.

Strategies include partnerships with private and non-government organizations, capability building of all concerned in the implementation of eTESDA, social marketing and change management.

In summary, to make the eTESDA dream a reality, it needs the support of everybody in the TechVoc and ICT sector to push it to success.

Enhancing Learning Opportunities through CICT's ICT4BE Program

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Republic of the Philippines

Envisioning a nation competent in the use of ICT as a tool for sustainable development, the government's agenda for human capital development is not merely focused on developing the ICT skills of its people, but more so on advocating, promoting, and harnessing the power of ICT for education and lifelong learning. As such, the government pushes forward the development of 21st century skills and ICT competency among the nation's citizens toward creating a critical mass of world-class knowledge workers that creatively and effectively use ICTs for the economy's continued social advancement and economic prosperity.

Towards this end, CICT has initiated various efforts in support of ICT in Education toward effectively incorporating ICT in school administration and management as well as teaching and learning, through the ICT for Basic Education (ICT4BE) Program. The initiatives look into assisting the education sector determine and gain access to the infrastructure (hardware, software, telecommunications facilities, etc.), capability-building programs, relevant content, and other requirements necessary to use and deploy learning technology solutions at all educational levels. The Program includes:

a. The iSchools Project aims to strengthen classroom learning and instruction by enabling and expanding access to relevant digital content and applications in education through the provision of Internet laboratories in selected public high schools. The project prides itself in its comprehensive approach to integrating ICT in education. One part of this equation includes the provision of up-to-date ICT infrastructure which includes a networked computer laboratory with broadband internet connectivity. This is complemented by the conduct of five (5) major teachers' training workshops. To strengthen this initiative, a Sustainability Planning Workshop ensures greater community involvement among the school's stakeholders.

Currently, the project is working on its final set of 320 beneficiary public high schools for 2010-2011, bringing the total number of beneficiaries to 1,000 since its pilot implementation in 2006. It was recently awarded the Government Technology Awards 2009-Digital Inclusion Category by FutureGov as well as the Philippine ICT Awards for Digital Inclusion by the CIO Forum.

b. The eSkwela Project, on the other hand, partners with the DepEd-Bureau of Alternative Learning System (BALS) and local communities in establishing Community eLearning Centers that provide out-of-school youth and adults (OSYA) with ICT-enhanced alternative education opportunities to assist them in completing their basic education. The initiative responds directly to a national development priority and brings e-learning opportunities and ICT for learning resources to learning facilitators and out-of-school learners in the Philippines in an exciting, innovative, and locally meaningful way.

Starting with just four pilot sites, there are now 31 operational eSkwela Centers nationwide, catering to a total of 3,200 learners since 2007. CICT and DepEd-BALS are working with various LGUs and NGOs in setting up at least 100 more new sites by the end of 2010 to serve more educationally underserved Filipinos. It was cited with a Certificate of Commendation in the nonformal education category of the UNESCO ICT in Education Innovation Awards 2007-2008. Further, it has consistently achieved a higher passing rate than the national average in the A&E Test of DepEd.

c. The Creative Content Development Project prioritizes the conversion of existing educational materials into digital format and the creation of new digital multimedia learning resources that are appropriate, relevant, and meaningful to Filipinos. Its goal is to make the Philippines' stock of content available online and provide all Filipinos with easy access to the information that is important to our lives. It aims to provide learners with quality, well-designed and well-produced interactive multimedia materials which are easily replicated at low cost, necessary for greater access to all Filipino learners.

One of its sub-projects, Jeepney ni JanJan, was awarded Outstanding Client Application of the Year for Game Development in eServices 2010 by the Department of Trade and Industry (DTI).

E - Driven Learning: On-line Question-posing and Peer Assessment as Means for Web-based Knowledge Sharing in Learning Mathematics

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This study is an examination of a novel way for merging assessment and knowledge sharing in the context of a hybrid online learning system. First year to fourth year students carried out an online question-posing assignment that consisted of two components: knowledge development and knowledge contribution.

The students also performed self-and-peer assessment and took an online survey for assessment and knowledge sharing. Our objective was to explore students' learning and knowledge sharing while engaged in their critical analysis of the immediate problems in our division pertaining to the study and instruction of Mathematics.

Findings indicated that even controlling for the students' prior knowledge or abilities, those who where highly engaged in online question-posing and peer-assessment activity received higher scores on their final examinations compared to their counterpeers.

The results provide evidence that web-based activities can serve both as learning, problem solving and assessment enhancers in high school education by promoting active learning, constructive criticism and knowledge sharing.

It is proposed that online survey, web-based knowledge sharing and peer assessment as methodology would answer the demands of time to learn Mathematics and any other discipline most effectively.

The GENYO Experience: Issues and Challenges in Implementing an Online Learning System for Basic Education in the Philippines

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GENYO is a locally developed interactive and customizable multimedia learning management system for basic education students and teachers.

This case study surveys the basic education learning environment and its realities that led to the development of this online learning management system. The study traces how this ICT-based classroom instruction approach came about and presents the challenges encountered during the development stage and in the early phase of actual implementation in selected Philippine high schools, baselining technology infrastructure, school facilities, and teacher competence.

This study further assesses the attitudinal readiness and reactions to the introduction of technology in the traditional teacher-student framework that relies on printed academic instructional materials. Specifically, the study identifies attitudinal and behavioral barriers and other impediments that had to be resolved to successfully integrate technology into mainstream learning.

The study presents the Genyo solution to technology integration which includes the software suite (courseware and authorware), teacher-training component, and strategic management support (IT audit, deployment, and system maintenance).

Finally, the study arrives at several conclusions and recommendations that may be of value to schools contemplating an ICT-based teaching-learning environment.

SUMMARY OF OPEN FORUM

Issue No. 1: The role of a holistic and ICT-supported education and human resource development in improving the performance of students

There is a need to work on achieving a balance between information technology program and the available IT resources to complement education. In some countries, investments on education-oriented ICT hardware have been made but these were not utilized / maximized perhaps due to lack of drive or motivation for both students and teachers.

For learning and teaching to become effective, a great deal of analysis on the learning environment is necessary. This should include comprehensive planning that cover classroom management and assessment of data coming from tests that determine student capacities. The bottomline of ICT-supported classroom instructions is to excite students to become digital citizens. Films for classroom instructions can be adopted. Wikis are infused into classroom learning starting with being complementary, then compulsory, until it is finally integrated. In some countries, they have successfully included it in the curriculum even if it took them some years to work on it.

The ICT target groups today are the so-called i-Generation learners that have adopted different patterns of learning, away from the traditional forms. They are interconnected, interactive and internet savvy. So instead of online games, new educational games can be introduced to facilitate interaction since this is the stage wherein children are seeking social attention and recognition. It is in cases like these that the role of ICT in education must be introduced, utilized and maximized.

Indeed, paradigms are shifting in recognition of the human aspects of ICT in education and professions. In which case, human resource development is now being reformatted to mean human resource utilization. Thus, teacher development is an expressed necessity because there is now a question as who should teach ICT subjects and courses: those who know how to teach or those who know what to teach. It is imperative that teacher hiring procedures be re-assessed as well.

ICT is ubiquitous and ICT4E advocates should try to keep up with the demands of the times by applying more creativity and flexibility in advancing life-long learning. In so doing however, distance education is not regarded as the panacea of all problems. Portability of resources must also be taken into consideration. Moreover, since education is part of a continuum, there is a potential for collaborations and online course development.

Integration of all initiatives is necessary to solidify all ICT4E efforts. In order to come up with common platforms and interfaces that puts together all learning and teaching tools, unifying of very diverse efforts is a very important key.

Issue No. 2: Extending the beneficiaries of ICT4E plans and programs to include the out-of-school youth

Interactive communication for education was actually explored in the early years. It first started with the radio that complemented classroom instruction. Then came the television that featured educational programs for school children. However, ICT for education should not only benefit students who are part of the formal schooling system. The out-of-school youth (OSY) can also study ICT4E through learning modules and linking up with the private sector specializing in knowledge television channels.

In the Philippines, the Department of Education's Bureau of Alternative Learning Systems (BALS) intends to ensure that even OSY will be included as beneficiaries of ICT4E initiatives thru e-skwela, which is implemented with the help of the Commission on Information and Communications Technology. Under this project, community-based e-Learning Centers or eSkwela Centers are being established in major centers around the country to conduct ICT-enhanced alternative education programs to re-engage, free of charge, out-of-school youth and adults. The centers serve as venues where they can learn new skills and competencies, review the Accreditation and Equivalency (A&E) Exam of the DepEd-Bureau of Alternative Learning System (BALS), and/or help prepare learners to rejoin the formal school system. It likewise aims to help reduce the digital divide and enhance the capacity of these individuals to be successful participants in a global and knowledge-based economy[1].

ICT is for everyone and the opportunities it ushers in are boundless. It supports international education and guarantees the integration of marginalized sectors into the mainstream. Thus, the establishment of an accrediting body for education / learning technologies which will integrate these in the formal sector is required. Indeed, what is crucial is the process by which the reach is widened to accommodate more beneficiaries of ICT4E.

Issue No. 3: ICT4E and the developing economies

APEC, as an organization, has unique strengths and weaknesses. It promotes life-long education systems while respecting diverse cultures. Its presence is felt in international movements. An example of which is its participation in the OECD's Future Education Forum. It takes into consideration the gaps that need to be filled in terms of digital access especially among developing economies.

1 UNESCO

In Peru, ICT4E starts with children coming from marginalized sectors. Supported by the Ministry of Education (MoE), the $100 per computer for students plan was implemented for five (5) years. One (1) laptop per student was given. Its funding was provided by the government under the national unification budget. The computers were distributed to 3 million primary students. Although a curriculum was formulated for this purpose, it was also oriented for industry groups. The MoE played a major role in providing public information on the project and in distributing its offline versions. The importance of establishing relations and coordination with the government can never be stressed enough.

Indeed, poverty should not be an excuse for not achieving ICT for education. In the case of Lapu-Lapu City in Mactan Island, Cebu, Philippines, they were able to seek assistance from the private sector, through the Philippine Business for Social Progress, which facilitated the provision of computers to the children beneficiaries.

Identification of ICT4E-disadvantaged countries is also being done by the Southeast Asian Ministers of Education Organization (SEAMEO) and they work toward projects which provide students with employment-ready ICT education.

Issue No. 4: ICT4E and Intellectual Property Rights

There is a call to promote more use or adoption of Open Source. However, concerns are being raised on the formulation of some pedagogies that clearly manifest some violations of intellectual property rights. Thus, there is the need to review policies starting in the school level. There are some schools though that has come up with clear guidelines whereby the signatures of some professors are sought before students upload their course modules on their websites.

APEC Learning Community of Builders or ALCoB Philippines Inc. to be launched in Cebu

One highlight of the APEC ICT4E Expo on June 9-10 that will be held at the Hilton in Mactan Island, Cebu is the launching of the Asia-Pacific Economic Cooperation (APEC) Learning Community of Builders or ALCoB Philippines Inc.

Said organization was recently created to foster collaboration among member economies of the Asia Pacific Economic Cooperation (APEC) in advocating improved basic education and learning outcomes in the APEC region.

To achieve such, ALCoB Philippines Inc. shall spearhead the crafting of e-learning and Information Communication Technology or ICT initiatives locally and shall actively promote them globally. It is likewise ALCoB Philippines Incorporated's goal to advance its role as an e-learning support organization that will soon enable the Philippines to attain its stature as an advanced IT e-learning society.

ALCoB Philippines Incorporated will also be in the forefront of organizing a series of local and international conferences, dialogues and workshops that shall serve as a venue for discussing levels of cooperation and sharing of ICT education-enhancing knowledge and expertise among APEC economies. Collaboration with other education stakeholders will also be heightened in order to benefit local ICT for education (ICT4E) initiatives.

For the conduct of the APEC ICT4E Expo this coming June 9-10, the ALCoB Philippines Inc. shall co-manage the event with the Department of Education.

ALCoB Philippines Inc. was formed by some of the country's leading personalities in the education sectors such as DepEd Assistant Secretary Jesus Mateo, DepEd Undersecretary Ramon Bacani and Dr. Alexander Flor, the Founding Dean and Professor, Faculty of Information and Communication Studies, U.P. Open University.

Regional Cooperation for ICT4E

On June 9-10, a group of local and global education experts from APEC member countries will converge in Mactan Island, Cebu to concretize plans that will institutionalize initiatives to push for support and strengthening basic education and learning through information communication technology.

With its theme, “APEC Information and Communication Technology for Education Expo 2010”, the event will gather together educators, academicians, development practitioners and policymakers to strengthen and support basic education learning processes through Information Communication Technology (ICT).

This event, whose time and importance has finally arrived at least a decade ago, needs to be addressed in order to prepare the youth, their generation, for better education and market opportunities. That must be done, now, to keep up with technological advancement and applications to learning that get better and more efficient.

The value of ICT to education is now fast becoming a reality all over the world. Many foreign educators and classroom teachers are extolling the virtue and necessity of technological application to learning. Although most of our Asian counterparts might have successfully caught up with this phenomenon, there is much to be desired for, especially in the Philippines.

Thus in the pursuit of genuine regional cooperation and support among developing countries in the Asia-Pacific Region, the success of this event is very critical.

During the event, engagement and discussions among the regional ICT4E stakeholders shall revolve on a host of vital matters that shall include: APEC-led initiatives on ICT4E; ICT4E initiatives by government and non-government organizations in all 21 APEC member economies; generating support from multilateral, bilateral and private aid agencies for ICT4E; ICT for pedagogy, teacher development and educational governance; and ICT for basic education, higher education, and technical and vocational education.

This event is being spearheaded by the Department of Education and the Asia-Pacific Economic Cooperation.

DepEd Revs Up its Campaign for ICT in Education

The Department of Education is taking its role to sustain its efforts to realize its goals for ICT for education very seriously.

Since 2008, it has initiated efforts and conducted specific activities that actualized its major direction for an ICT-led basic education.

Foremost of it is the preparation of competency-based learning modules that integrate ICT to support Technical Vocation Education. This is in furtherance of the DepEd's ICT for Education objectives. As such, a workshop was spearheaded by the DepEd on 5-10 October 2009 at the Development Academy of the Philippines in support of the implementation of an ICT-enhanced curriculum in Regional ICT Tech-Voc schools. (DepEd Order no 419 series of 2009)

In terms of organizational readiness and capacity to further the implementation of ICT for Education, DepEd has moved to strengthen governance for ICT for education. This was manifested with the creation of an ICT Governance Committee that will be tasked with the overall implementation of DepEd's ICT strategic plan. (DepEd Order No. 26 series of 2009)

As a way of boosting the skills and capacities of teachers and non-teaching personnel to perform their pivotal role in imparting ICT-supported learnings, an in-country training program on managing teaching and learning through ICT was launched by the DepEd. The said training was done in partnership with the SEAMEO VOCTECH. (DepEd Memorandum No.526, series of 2009)

DepEd also managed to engage local and global education stakeholders that are advocating for a genuine ICT-supported basic education.

On 10-11 September 2008, the Third National ICT in Basic Education Congress was held in order to showcase practices in ICT and curriculum integration, at the same time to facilitate dialogue on curricular and pedagogical issues that can be complemented with computer and internet-enabled methods towards affecting learning outcomes.

In this national gathering of teachers, curriculum developers, school-based ICT coordinators, school heads, education technologists, policy planners and representatives of ICT practicing organizations, an assortment of ICT-related topics were discussed such as: appropriate ICT integration across curriculum; appropriate ICT integration in core learning areas; fostering student collaboration using educational technologies; best practices; managing ICT-infused classrooms; assessment of ICT-supported learning activities-strategic and tools and issues and concerns; teacher professional development in ICT integration; building or participating in online learning or professional communities and subject-specific networks; and, ICT-supported distance learning.

Also in the same year, DepEd took its advocacy and determination for ICT in education to a higher and international level. Thus in 4-6 August 2008, an International Conference on Teaching and Learning with Technology (iCLT 2008) was held in Suntec, Singapore. With its theme of Learning, Leading and Innovating, the said international conference was jointly organized with the Ministry of Education of Singapore and the International Society for Technology and Education (ISTE).

This gathering of local and international educational leaders, education researchers, classroom practitioners and industry leaders from the Asia-Pacific region, provided a platform for the participants to share experiences and exchange ideas and information amongst participants on the use of technology in education; and, build contacts for future collaborations, in particular, possible tie-ups among schools and industry.

This year, another international conference will be spearheaded by the DepEd and the APEC that is intended to facilitate a regional initiative that will institutionalize initiatives to push for support and strengthening basic education and learning through information communication technology.

On June 9-10, a group of local and global education experts from APEC member countries will converge in Mactan Island, Cebu.

With its theme, “APEC Information and Communication Technology for Education Expo 2010”, the event will gather together educators, academicians, development practitioners and policymakers to strengthen and support basic education learning processes through Information Communication Technology (ICT4E).

APPENDICES

Appendix A. Slides Shows and Video Presentations

(See DVD insert.)

Annex B. ICT4E Expo Program

Time	Day 0	Day 1	Day 2
8:00 - 8:30	ARRIVAL OF PARTICIPANTS	EXPO RIBBON CUTTING AND EXHIBIT LAUNCH *Ramon Bacani* *Queenie Mangilin Ammann* *Jesus Mateo*	<u>PLENARY III</u> Expo Day 1 Review Keynote Speech 3 *Cristna Kim Morla Chiong Kongfook* Panel Discussion III: ICT4E Donor and Private Sector Initiatives *Erlinda Pefianco* *Basheerhamad Shadrach* *Dennis Reyes* *Jothievel Kannan*
8:30 - 10:00	REGISTRATION	OPENING PROGRAM Welcome Messages *Allan Ginsburg (via video)* *Queenie Mangilin Ammann* Opening Remarks *Ramon Bacani* Expo Overview *Jesus Mateo* APEC ICT4E Situationer *YoungHwan Kim*	
10:00 - 10:30		COFFEE BREAK AND VENDOR PRESENTATION	COFFEE BREAK AND VENDOR PRESENTATION
10:30 - 12:00		<u>PLENARY I</u> Keynote Speech 1 *Chi-Syan Lin* Panel Discussion I: APEC ICT4E INITIATIVES *Young Cook Jun* *Maria Melizza Tan* OPEN FORUM *Alexander Flor* (moderator)	Panel Discussion III (Part 2) *Michael Henry Montero* *Patricia Arinto* *Michael Hutak* *J. Kandaleena Jeba* *Maria Ana Quimbo* OPEN FORUM *Maria Susan dela Rama* (moderator)
12:00 - 1:30	Coordination Meeting	LUNCH AND VENDOR PRESENTATIONS	LUNCH AND VENDOR PRESENTATIONS (2)
1:30 - 3:00	FINAL PREPARATIONS REGISTRATION	<u>PLENARY II</u> Keynote Speech 2 *Grace Javier Alfonso* Panel Discussion II: ICT4E and the APEC Economies *Zhang Ji-Ping*	<u>PLENARY IV</u> Keynote Speech 4 *Jesus Mateo* Panel Discussion IV: ICT4E Agency Initiatives in the Philippines *Ester Ogena* *Maria Susuan Dela Rama* *Maria Melizza Tan* *Donald Dungog* *Jose Maria Policarpio* OPEN FORUM *Alexander Flor* (moderator)
3:00 - 3:30		COFFEE BREAK AND VENDOR PRESENTATION	COFFEE BREAK AND VENDOR PRESENTATION
3:30 - 5:00		Panel Discussion II (Part 2) *Phil Coogan* *Oscar Manuel* Becerra OPEN FORUM *Ester Ogena* (moderator)	CLOSING PROGRAM Expo Report and Participant Responses Awarding Ceremonies Closing Remarks *Jesus Mateo*
5:00 - 7:00		Exhibit Viewing	Individual and Institutional Networking
7:00 - 9:00	Mabuhay Dinner (c/o DOST-SEI and TESDA)	Bayanihan Dinner (c/o DepEd, DOST-SEI,and TESDA) Launching of ALCoB Philippines Filipino Cultural Presentations	Fiesta Dinner (c/o DepEd, DOST-SEI,and TESDA)

Appendix C. Sponsors and Partners

Sponsors

Science Education Institute
Department of Science and Technology

Technical Education and Skills Development Authority

Diwa Learning Systems, Inc.

C&E Publishing, Inc.

Partners

Commission on Higher Education

Commission on Information and Communications Technology

Department of Education Regional Office, Cebu

Department of Foreign Affairs

Department of Tourism, Regional Office, Cebu City

Institute of APEC Collaborative Education

Office of the Governor, Province of Cebu

Office of the Mayor, Lapu-lapu City

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Speakers and Participants of the APEC Information and Communication Technology for Education Exposition 2010

Exhibit Area
Montecarlo Ballroom Foyer

Asec. Jesus Mateo launches ALCoB Philippines during the Bayanihan Dinner.

The audience was treated to a sample of *Tinikling*, the Philippine national dance, during the Filipino Cultural Presentation.

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