

A Report on e-Learning and Best Practices

J A N U A R Y 2 0 **02**



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The twenty-one economies that make-up the Asia Pacific Economic Cooperation (APEC) forum recognize that education will increasingly be a key contributor to the economic and social well-being of the region and its member economies.

access

There is also widespread recognition that the “digital divide” is a significant problem both within most Asia Pacific countries — and between the developed and developing economies in the region.

With an increasing share of the world economy based on information as opposed to physical capital, knowledge has become the single most important asset for individuals, companies and countries. However, it is estimated that little more than five percent of the world’s population uses the Internet and nearly 90 percent of those users are concentrated in the industrialized world. In order to fully realize the benefits of the new information-based economy, the APEC economies will need to greatly increase access to the Internet.

The APEC Economic Leaders’ Declaration, released on October 21, 2001 at the Shanghai Leaders’ Meeting, adopts an e-APEC strategy that presents a solid framework for maximizing the benefits of the emerging New Economy. The goals and recommendations articulated in the strategy hold the promise of closing the digital divide and building human capacity by increasing access to the Internet and to e-learning opportunities throughout the region.

The Asia Pacific e-Learning Alliance, an international coalition of companies formed to promote the benefits of Internet-based learning opportunities among members of APEC, applauds the progress made in Shanghai and stands ready to play a significant role in developing the public/private partnerships that will be necessary for real progress to be achieved. The e-Learning Alliance is a project in partnership with the National Center for APEC. The Alliance is co-chaired by AOL-Time Warner, Cisco Systems, Fujitsu and Sun Microsystems. Other member companies include Acer Enrich, Applied Materials, Daesung Group, Parsons Brinckerhoff, and Saba.



A GROWING NEED FOR e-LEARNING SOLUTIONS

There is little debate on the critical need to close the digital divide, as numerous statistics continue to show. Within the APEC region there are tremendous discrepancies among the more industrialized and less developed economies. For instance, fewer than one in 2,000 Vietnamese use the Internet, while nearly three out of every ten people in Singapore do. Of the more than 459 million people connected to the Web in the world today, 22 percent live in the Asia Pacific region.

In a recent analysis of the worldwide shortage of networking professionals — those people that form the backbone of the information technology industry — researchers for leading industry analyst IDC stated:

“Currently, skills shortages rank as one of the leading inhibitors limiting the growth of IT by industry and government in most geographies in Asia Pacific and is the first or second most critical business issue in the region.”¹

While supply and demand for workers may vary due to certain economic conditions, the following statistics on a projected “skills gap,” as reported by IDC, are sobering.

The Asia Pacific skills gap will increase at a 48 percent rate and will result in a shortage of almost 200,000 networking professionals in 2003.²

North America’s skills gap is increasing at approximately a ten percent rate to produce

a shortfall of about 176,973 skilled professionals in 2003.³

Latin America faces a shortfall of over 365,000 networking professionals by 2003, as the gap between supply and demand increases at a compounded rate of over 20 percent per year.⁴

It is notable that IDC predicts significant near-term worker shortages in all APEC regions. This accentuates the importance for all member economies to look at new and more efficient methods of increasing access to the Internet and finding new ways to provide the web-based information that can help increase access to educational content to the broadest possible population. Members of the Asia Pacific e-Learning Alliance believe that the most efficient method would be for APEC economies to make a strong commitment to build the infrastructure and develop the online content to benefit all of the region’s citizens.

CORPORATE “BEST PRACTICES”

To help promote the effective use of public/private partnerships and to help speed widespread access to the Internet, members of the Asia Pacific e-Learning Alliance offer a sample of corporate “best practices” that could serve as model programs for future initiatives.

These corporate projects include internal company practices, business-to-business projects, publicly funded e-learning initiatives, and corporate philanthropy. We believe these case studies are of particular relevance because they are specific examples that illustrate how the goals of closing the digital divide and building human capacity, as

1 A Study of the Worldwide Networking Skills Shortage: An IDC White Paper. Analysts: Rebecca Segal, H. Michael Boyd, Ph.D, Lisa Fels Echavarria, Victor Lopez, Andrew Milroy, and Puni Rajah. Copyright 2000.

2 Ibid.

3 Ibid.

4 Ibid.

articulated in the October 21, 2001 APEC Economic Leaders' Declaration, can be addressed. Among APEC's stated goals are the following:

- To transform the digital divide into a digital dividend in order for APEC economies to benefit from the opportunities presented by a networked environment;
- To prepare APEC economies and all of our people to use the information revolution as a passport to the New Economy;
- To maximize access to high quality education, life-long learning and training through strong partnerships between governments, academic and business communities;
- To develop human resources capable of responding to the demands of the New Economy;
- To promote the development of skills to use the Internet, especially for disadvantaged groups in society; and
- To utilize new learning technologies and practices provided by Internet technologies.

The following examination of corporate best practices presents a variety of e-learning applications that can help APEC economies in their quest to meet the above goals. These examples all serve to illustrate how similar practices, when adopted to meet the broader needs of an entire economy, could provide a model for use on a regional scale.

CASE STUDY: Learning a New Language Online

Language barriers have always been an impediment to global commerce. Preparing citizens to better compete in a global market by enabling access to tools for anytime, anyplace, and any pace learning of new languages is in the interest of every economy.

Fujitsu: In 1998, Japan's Takamatsu University and Junior College began utilizing Fujitsu's Internet Navigware to develop new software needed to teach an online English conversation course. All students in the University's inaugural class completed the course, with many reporting that the e-learning method was much easier to follow than a traditional grammar-oriented course.

The University cited the following as major merits of the online course:

- Quick development of teaching materials;
- Self-paced learning;
- Video utilized as an effective learning tool; and
- E-mail provided for increased interactivity and provided for easily accessible instruction and advice.

This successful example of e-learning enables participants to facilitate lifelong learning by acquiring information, improving skills, and developing individual abilities, at a pace set by each student. Moreover, it is an example of how complex, interactive subjects can be successfully taught online, from multiple remote sites.

CASE STUDY: Public/Private Partnerships at Work

Working cooperatively with government bodies at all levels is the key to establishing successful e-learning programs that can reach the widest possible segment of the population.

Cisco Systems: The Cisco Networking Academy Program (www.cisco.com/asiapac/academy and www.cisco.com/edu/academy) is a highly successful partnership between Cisco Systems, education, business, government and community organizations around the world. The Program is a not-for-profit education initiative with a curriculum designed to teach students to design, build and maintain computer networks, and serves as a



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Possessing both brainpower and bandwidth – partnering with colleges and universities can offer a head start in expanding e-learning to other segments of the population.

valuable model for expanding the web-based curriculum into other information technology disciplines such as operating systems, web design, cabling infrastructure, and IT essentials. The Program provides access to the latest e-learning technologies and has allowed students to gain industry-recognized skills and certification that are highly demanded by industries, providing them with a good career path in IT.

For example, after being enrolled for two semesters at the Southbank Institute of Technical and Further Education, Australian Jared Irons changed and enhanced his career by securing a job with a national Internet Service Provider (ISP) working on technical support and server configuration. The certification path allows graduates to pursue lifelong learning which is an essential attribute in the knowledge-based economy.

The Networking Academy Program is an e-learning model that delivers web-based content, online testing, student performance tracking, hands-on labs and instructor training and support. Cisco has created the largest e-learning laboratory in the world. With curriculum distributed over the Internet, the Academy Program, launched in 1997, has served more than 200,000 students, and 23,000 instructors in more than 8,200 Academies across 131 countries that, in turn, are spearheading new ways of teaching, learning and system administration in a comprehensive e-learning environment. In the Asia Pacific region, there are currently more than 720 Academies teaching the Program to more than 33,000 students in 24 countries.

The Cisco Networking Academy has partnered with and received endorsement from several governments, including Australia, China, India, Indonesia, and Singapore, as well as international development organizations, such as the World Bank and United Nations Development Programme (UNDP). In Indonesia, for instance, the Directorate

of Technical and Vocational Education, Ministry of National Education, has worked with Cisco to establish five technical high schools as Networking Academies since March 2001. These schools collaborate with the University of Indonesia for training and support. Once this pilot phase is completed, it will be expanded to include the remaining 22 technical high schools in Indonesia.

In addition, Cisco and the UNDP Asia Pacific Development Information Programme (APDIP) partnered to bring Internet-based education to developing countries in the Asia Pacific region by jointly funding ten Academies in nine developing countries throughout the Asia Pacific region. Launched in 1999, these Academies are now providing students with advanced IT curricula to leverage the enormous opportunities created by the Internet.

CASE STUDY: Leveraging Resources at the University Level

Colleges and universities were the birthplace of the Internet, and are still in the vanguard when it comes to developing and implementing web-based solutions. Possessing both brainpower and bandwidth — partnering with these institutions can offer a head start in expanding e-learning to other segments of the population.

Sun Microsystems: Sun's first-ever Sun Center of Excellence for E-Learning was established at the University of Alberta in June of 2001. The Canadian campus offers the world's largest university e-learning site with over 100,000 enrollments in more than 1,000 courses.

As a Sun Center of Excellence, the University received essential Sun hardware and a WebCT environment, enabling the creation of a scalable network environment with the security, performance, reliability and availability required for mission critical systems.

The goal of the program, in addition to providing a “best practices” example to other universities, is to provide students, faculty and the general population with online access to libraries across Alberta, and millions of research resources via the Internet. Available to students beyond Alberta, the University has enrolled students from countries as diverse as Ghana, Guam, Indonesia and Chile in the e-learning program.

CASE STUDIES: Global Businesses Benefit from Efficiencies of Web Training

Efficiently managing internal training programs for large multinational corporations presents a challenge common to all governments.

Saba: Facing the challenge of quickly sharing knowledge and information about its new products to a global workforce, while building knowledge and skills in key competency areas, Procter & Gamble selected Saba and the company’s Saba Learning Enterprise to build an Internet-based learning management system for use by over 100,000 P&G employees in over 70 countries.

P&G had multiple, disparate learning management systems that drove up costs and proved to be inefficient in providing e-learning solutions. Using Saba Learning Enterprise, the companies collaborated to create a scalable system featuring web compatibility and diverse functionality. With online registration, financial management, and online learning, P&G is able to fulfill separate business unit requirements all through a single, completely integrated system.

During the initiative’s first year of implementation, P&G moved from less than five percent of employees utilizing e-learning to over 25 percent. E-learning currently represents 59 percent of the company’s learning solutions, resulting in cost savings estimated at \$14 million after five years.

Applied Materials: In order to meet the challenge of employee training and development for a global workforce of over 20,000 employees in 13 countries, Applied Materials has invested in a multi-million dollar training facility that offers more than 1300 different courses taught by over 100 trainers worldwide. As part of the annual performance review process, all employees are encouraged to complete at least 40 hours of training per year. Most new hires complete over 90 hours in the first year. Employees access the training catalog, register and view their transcripts at a specialized web site at their desks or at kiosks throughout the company.

A strategic direction toward e-learning at the company has made training easy and accessible. By October of 2001 Applied Materials projects that 60 percent of all new training products will be web-based. These e-learning initiatives have proved to be both more effective and more efficient in reaching employees than traditional in-class instruction. For example, more than 6,500 employees completed a Prevention of Sexual Harassment course within the first month. To accomplish the same efficiency with traditional in class training would not have been possible. Currently, Applied Materials has 239 e-learning courses available in a variety of formats including CD, video, and online.

Parsons Brinckerhoff: In the fall of 2000, Parsons Brinckerhoff, a global engineering consulting firm, initiated employee training courses over the intranet and Internet to reach its global staff with technical skills development and new employee orientation courses. The firm, which has doubled in size in the past five years, has experienced significant growth in Europe, Australia and Asia, and needed a faster more efficient way to train its sales force. As a solution, Parsons Brinckerhoff developed a three-hour online training module, available for employees anytime,



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anywhere. The “PB Toolbox” course replaced costly instructor-led training to more efficiently orient its new business development staff.

The benefits to the company in terms of class logistics and cost savings have been significant, leading to the decision to move at least parts of all business development training courses online within the next three years.

Acer Enrich: Eager to develop a web-based e-learning environment for the training of its employees, Yulon Motor Company selected Acer Enrich to develop a customized software program for its online classes. Among its goals, Yulon, a manufacturer for Nissan, sought to improve internal efficiencies and reduce costs. Launched in July of 2000, five e-learning courses featuring information technology and language skills were developed and offered to employees. Still in the first stage of a planned expansion, Yulon has reported that in the first year, training costs are ten percent lower and training administrators are able to spend more time focused on developing further training programs and interacting with employees.

The next phase of Yulon’s deployment will feature additional classes and an expansion of offerings to the company’s distributors and partners in China.

Applied Materials: AMTV, the company’s employee communications network, offers a web-based series of classes designed to enhance marketing skills. The courses are taught by college professors and internal instructors and give the participants an academic and industry-relevant view of marketing topics. The courses focus on many different topics ranging from “Introduction to Marketing” to “Marketing Research and Customer Values.” The web-based program allows Applied Materials to make better use of a wide variety of instructors both inside and outside of the company without having to deal with the logistics

of coordinating the schedules of instructors and students. Since the courses first went online in April 2001 the site has had approximately 100 hits per month which is estimated to be a much greater number of students than a traditional in-class course could have reached in the same amount of time.

CASE STUDY: Online Skills Development Helps Small Business to Realize Cost Savings and Greater Efficiency

While the shortage of skilled information technology professionals hurts businesses of all sizes, its impact is especially acute at companies with fewer than 100 employees. Typically these smaller firms do not have the resources of their larger counterparts to bring in training consultants or establish programs that upgrade employee skill levels. It is similarly difficult and expensive to send employees off site for courses and training. In addition to the expense, off-site training takes time away from customers and can hinder productivity.

Cisco Systems: The Cisco Partner E-Learning Connection utilizes the Internet to provide flexible, Web-based learning from one centralized portal location — providing worldwide availability around the clock, without travel time and expense. The E-Learning Connection is designed to help the company’s partners access courses and information about Cisco professional certification, and Cisco technologies and solutions.

In addition to interactive Web-based courses, the portal provides video-on-demand programs, virtual labs, access to online mentoring, learning references and training resources. The goal is to provide users with a single, easily accessible source for learning in the format that is most effective to the individual while offering online tools to track progress and provide access to the type of training needed.

Currently, 16,000 companies have partnered with Cisco on the E-Learning Connection — with more than 60,000 employees utilizing the e-learning portal. The program has allowed Cisco Channel Partners to spend less time and money traveling to classrooms, providing the opportunity for students to proceed through training at their own pace. The online testing and certification tools enable employers to assess the progress of trainees, thereby providing for better management accountability.

CASE STUDY: Public/Private Collaboration Serves as a Model for School Networking

At a very early stage the Government of Japan recognized the potential benefits of the Internet to education, and how important a model program would be in the shaping of e-learning in that country.

Japan launched the 100-School Networking Project in 1994 — at a time when very few schools, businesses, or government offices were online — as a model initiative to introduce the Internet and other information technology to students and teachers throughout the country.

The “E Square (e2) Project” was designed to realize the following three objectives:

- To enable the knowledge obtained as a result of the 100-School Networking Project to be shared with as many outside parties as possible and ensure that schools planning to access the Internet or improve their current network environment were able to easily and effectively use that resulting knowledge.
- To provide all project participants, from newcomers to advanced net users, with an opportunity to study together and expand their knowledge in an environment conducive to the free and open sharing of ideas.

- To verify the effectiveness of advanced educational methods, incorporating information and other technology.

Fujitsu: By installing networking hardware and custom software developed by Fujitsu, the E Square program enabled participating schools to conduct joint research, thereby demonstrating the effectiveness and potential of the Internet in the field of education.

An early example of how students and teachers in various schools were able to utilize the Internet to work together is the National Seed Germination Mapping Project. The program was launched in 1995 specifically as a method of facilitating inter-communication among students. Students learned to utilize Internet communications to exchange information on plant growth. The project was so successful participation grew from 11 schools in 1995 to 162 in 2000.

Several other Internet-based projects have been conducted through E Square. The Ministry of Education, Science, Sports and Culture (MOE) is undertaking research-and-development projects involving net use at schools. Such private-sector educational projects as the “KonettPlan” and “MediaKids” also employ the net, and there is yet another project currently underway that aims to provide Internet access to approximately 40,000 public schools nationwide by the end of 2001. The number of schools with Internet access is expected to steadily increase thanks to this project.

AOL Time Warner: Leading an industry-wide effort, Time Warner Cable currently provides high speed Internet service to over 1,200 schools and over 100 libraries in the communities it serves throughout the United States. In an exciting real-world example of the company’s commitment, its Northeast Ohio division provided free high-speed



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Internet service in the homes of 24 teachers in Akron and Canton, as well as in the homes of an entire second-grade class, to encourage an educational link between home and school.

In 1989, Time Warner Cable helped found Cable in the Classroom, an industry initiative to provide cable connections, equipment, and programming to all K – 12 schools in the nation. Time Warner Cable now provides this service for over 90% of the schools in the areas it serves, reaching well over 7 million students. This effort includes substantial collaboration with teachers at the community level, including the development and distribution of 13,500 Teacher Training Toolkits which serve as a resource guide for using the Internet in the classroom in ways that are safe, rewarding and educational for students.

CASE STUDY: Networking Schools — A Model District

Building a computer network framework within schools and school districts can lower overall costs while providing for easier access to information. Teacher lesson plans and web-based instructional content can be seamlessly integrated for classroom and at-home access. Other advantages include real-time reporting of student achievement, which can allow students, parents and administrators to better track classroom progress, and maximize efficiency in routine administrative tasks such as scheduling and grading.

Sun Microsystems: The Moreland School District and its library system, despite its location in the heart of California’s Silicon Valley, was woefully outdated in terms of both content and technology. The much neglected system contained books with an average publication date of 1969, and reference books were either missing or irrelevant. In 1997, a major overhaul was initiated to develop in-school media centers.

Utilizing a Sun server, a Sirsi software program, and Cisco routers over T1 lines, all the district’s libraries are now connected — providing a universal library catalogue that stores all the information about the school district’s library collection. The new system allows librarians to keep better track of materials that are being utilized, while allowing students easy access to reference materials online.

In addition to searching the district libraries, students can search the county and city public library system as well as the Library of Congress from any classroom. In addition, the district has added remote capabilities to the system so students can access the school library collection directly from home.

CASE STUDY: Developing Online Content is the Key to Successful Web-based Education

Developing and organizing easy to use, quality online educational content is vital to the success of Web-based education. Portals should be developed in consultation with the education community to ensure that content and design are best suited for use in the classroom and by individual students.

AOL Time Warner: Working closely with professional educators, America Online developed AOL@School to help make the Internet a free, easy-to-use and age-appropriate learning tool. Through AOL@School, educators and students everywhere now have one-click access to Web sites that are targeted to their specific needs. These ad-free sites are organized into portals tailored for students by grade level as well as for administrators and teachers. The site also provides helpful tools for classroom use, including lesson plans and activities, reference materials such as encyclopedias and dictionaries, assistance in setting up individual home pages, a personal calendar program, and even a calculator.

AOL@School received input in the development of the portal from groups such as the Association for Supervision and Curriculum Development, the International Society for Technology in Education, and the National Association of Secondary School Principals.

Launched in the fall of 2000, AOL@School already serves 9,575 schools, with 68,700 individual students also registered.

AOL@School also offers a complete SAT preparation course online through its partnership with TestU. Like all of AOL@School's content, this important digital opportunity is freely available to aspiring college students — and represents a savings of hundreds of dollars over a variety of fee-based courses. Since the course was introduced in May of 2001, 4,036 students have enrolled.

CASE STUDY: Flat Rate Telecom Access Promotes Online Information and Learning Activities

To drive up Internet usage and penetration, many countries have a “flat rate” pricing structure for local telecommunications to access the Internet. Under a flat rate approach, consumers pay a fixed monthly fee to their telephone provider for connection to an Internet Service Provider (ISP). Without a flat rate system, metered rates serve to inhibit time spent online, and become counterproductive to promoting Internet usage.

AOL Time Warner: The United Kingdom is one recent example of the positive effects of capacity-based flat rate pricing on Internet usage, which

changed from metered to flat rate in late 2000. Within three months of this change, AOL's members chose to more than double their average daily time online while subscriber penetration also accelerated. Indeed, flat rate pricing of certain telecommunications access in France and South Korea has also led to higher Internet usage.

From a global perspective, the positive effect of flat rate pricing on Internet use is clear. The 2001 OECD “Understanding the Digital Divide” study shows that metered rates have a serious dampening effect on Internet usage, which is “just as important in determining the ‘accessibility’ of the Internet.”⁵ According to the OECD study, average Internet usage “is much higher in countries with unmetered access to the Internet than in those countries with metered pricing,” and, “[f]or consumers and small businesses, the most significant costs for engaging in electronic commerce are the prices of local communications access.” A recent economic study of 15 countries concluded that “other factors held constant, Internet subscriber penetration in countries with unmetered pricing is 31 percent greater than in countries with metered pricing; and the time Internet subscribers stay online is 35 percent greater in countries with unmetered pricing than it is in countries with metered pricing.”⁶

Internet use can be an invaluable resource for teaching Asian children information-technology skills needed for tomorrow's world, as well as allowing Asian workers to access valuable data in today's markets.⁷ A recent World Bank study noted significant evidence that Asians are willing and

⁵ “Understanding the Digital Divide,” OECD at 16 (January 1, 2001).

⁶ Haring, et al., Strategic Policy Research, Inc., *The Effect of Pricing Structure on Residential Internet Demand*, at i (April 2001).

⁷ Developing countries have recognized the critical need to promote Internet use as an educational tool. Argentina's “Educ.ar” project, for example, provides schools with free telecommunications access for Internet services in order to “connect[] every Argentine school to the Internet, training every teacher in its use, and providing an entire national curriculum online.” See http://www.digitaldividend.org/action_agenda/action_agenda_01_educar.htm



ed.venture will provide computers and Internet connectivity, training and post-training support services to an initial 15 pilot high schools and 35 more from 2002 to 2004.

able to use the Internet for expanded commerce, communications, and information gathering, and that “countries with progressive economic and sectoral policies will narrow the digital divide substantially during the coming decade.”⁸

CASE STUDIES: Foundations Promote Public/Private e-Learning Partnerships

Public and private foundations can offer both resources and necessary leverage for building far-reaching, integrated public/private partnerships.

Pilipinas SchoolNet: The vision of the Pilipinas SchoolNet is to build a network of schools throughout the Philippines that will leverage the Internet and related technologies to improve learning and to better prepare Filipino youth. Pilipinas SchoolNet is committed to addressing the digital divide within the country by providing effective and sustainable solutions to the problem of Internet connectivity.

The three components of the Pilipinas SchoolNet are connectivity, training, and telecollaboration. Connectivity involves providing the necessary physical and technical infrastructure and resources to public high schools. Training will be geared towards developing competencies in the effective uses of the Internet in education, with particular emphasis on matching technology use with curricular goals. Telecollaboration will promote the optimal use of online educational resources and the exchange of information, ideas, expertise, and experience nationally, regionally, and globally.

The Pilipinas SchoolNet was officially launched in July 2000 with the signing of a Memorandum of Understanding between the Foundation for Information Technology Education and Development

(FIT-ED) and Ayala Foundation, witnessed by the Department of Education, Culture and Sports. In August 2000, the heads of Globe Telecoms, PLDT/Infocom, Digitel and Bayantel signed a memorandum of understanding to provide up to 1,000 public high schools in their respective service areas free Internet access for one year and at discounted rates thereafter.

In April 2001, the Pilipinas SchoolNet organized a training workshop on Telecollaborative Learning in Singapore. This activity was co-financed by the Ministry of Foreign Affairs of Singapore and the WorLD Program. The main objective of the workshop was to introduce participants to educational telecollaboration — from activity structures to the creation, design, implementation and dissemination of original projects. A total of 22 public high school teachers, all of whom completed computer and Internet literacy training under FIT-ED’s Educator Training Program and Ayala Foundation’s Youth Tech Program, participated in this workshop. At present, these 22 teachers representing 15 public high schools are preparing to implement their first telecollaborative learning projects.

“ed.venture”: As part of its Pilipinas SchoolNet project, FIT-ED will manage ed.venture, an initiative by the Coca-Cola Export Corp. ed.venture will provide computers and Internet connectivity, training and post-training support services to an initial 15 pilot high schools and 35 more from 2002 to 2004. ed.venture will also serve as a pilot project towards establishing best practices in technology integration in the public secondary school system and, more broadly, in national policy formulation on ICT and its role in youth and community development and poverty alleviation.

8 Dasgupta, et al, World Bank Development Research Group, Policy Reform, Economic Growth, and the Digital Divide: An Econometric Analysis, at 2 (March 28, 2001) (Studies examining anecdotal Internet usage show that “[w]here Internet services are available, poor households do not seem hesitant or incompetent to use them.”).

Ayala Foundation, Philippines: The Ayala Foundation, Children and Youth Foundation of the Philippines (CYFP), Global Partnership for Youth Development (GPYD) of the World Bank Group, and Cisco established two Networking Academies in the Philippines in February 2000. The two Academies are the Laguna College of Arts and Trade (LCAT) and Center for Industrial Technology (CITE) in Cebu. Almost 90% of the 117 students in LCAT are females with an average household income of US\$465 per annum. This Program has helped the female students to acquire useful Internet networking skills that allow them to pursue meaningful and well-paying jobs to improve their lives and that of their communities. This partnership received great support and endorsement from the World Bank (WB) Group, and the International Youth Foundation (IYF).

The Smith Family, Australia and Liverpool City Council, Sydney: The Smith Family, Australia, Liverpool City Council, and Cisco established a Cisco Networking Academy in Sydney's western suburb of Liverpool on May 23, 2001. The initial intake of 40 students began its class in July this year. Half of the students are selected with the assistance of The Smith Family, an independent social enterprise working with disadvantaged Australians. The City Council and the Smith Family will offer scholarships for disadvantaged students to take the courses. Liverpool City Council also plans to extend the program to at least two other campuses next year. The initial campus will be in the Council's main library. The new locations are planned for Macarthur Community College in Cartwright and Macquarie Fields College of Technical and Further Education.

"The Academy is part of several long-term goals for the Council, namely reducing long-term unemployment in the region by re-skilling people in computer networking technology, and encouraging knowledge-based industries to the area by providing

a skilled workforce," said Mr. Keith Simmons, Project Manager for Liverpool City Council.

POLICY RECOMMENDATIONS

The following policy recommendations are made in the context of building on what members of the Asia Pacific e-Learning Alliance have found to work through direct experience. These recommendations have been incorporated by the APEC Business Advisory Council (ABAC) in its 2001 Annual Report to APEC Economic Leaders.

I. Leverage public/private partnerships

Developing knowledge and human capital is not in the interest of any single stakeholder but benefits all participants at national, corporate, educational and individual levels.

Grassroots initiatives designed to support e-learning and technology adoption, especially in partnership with the private sector, can augment government-led programs and stretch limited government funds to reach larger numbers of citizens.

By leveraging available resources and initiatives from each partner, there is no need to "re-invent the wheel." Instead, it allows for speedy implementation and sure-win results, as demonstrated by the successes of these existing programs.

II. Promote the use of digital/Internet technologies among educators and trainers.

Governments in partnership with educators and trainers should articulate a set of content development priorities and provide seed funding for high need areas. This would encourage collaboration and partnerships between the public and private sectors in the development and distribution of high quality online materials.

Digital content developed to address digital divide and educational needs can be adapted for use by governments seeking to address digital divide and learning issues.

III. Establish public/private think-tanks and advisory boards to provide policy guidance to governments on how to implement e-learning strategies at national, regional and community levels.

Various departments within the government sector, such as the Ministries/Departments of Education, Human Resources and IT should harmonize their policies on human capacity building. This will help to minimize bureaucracy and allow industry players to provide better support to government policy in this area.

Governments should seek to adopt industry best-practices on e-learning to ensure that civil servants have access to the training and development they require.

By working with private sector partners to align coursework with current marketplace needs and putting it online, governments can make the training and retention of millions of workers and students a reality.

IV. Establish competitive and flexible telecommunications pricing policies that allow unmetered access (i.e., flat rate pricing models) to the Internet to encourage users to fully explore its research and learning potential.

Research shows that metered pricing of Internet use is the enemy of Internet adoption and usage. According to a study by Strategic Policy Research, Inc., in countries with unmetered pricing for Internet service, usage is 30 percent higher than in countries where Internet users are charged

metered rates. In addition, the time spent online is 35 percent greater in the unmetered setting.

Unless the proper set of policies encouraging telecommunications liberalization and unmetered access pricing are in place, usage will be curtailed and this will limit the benefits which digital learning promises. This will prove particularly imperative in the digital learning context, as online education tools and technologies will engage users in time-intensive and increasingly sophisticated applications.

V. Support open standards and protocols on which the Internet is built.

Encourage the development of content and Internet standards and protocols based on open and interoperable standards, such as TCP/IP, HTML, XML, etc. This will allow students and others to access information using a variety of Internet enabled devices, such as Palm Pilots, cell phones, etc.

VI. Invest in infrastructure to allow greater Internet accessibility to all citizens, especially for the purpose of e-learning.

All schools, polytechnics, colleges and universities should be equipped with basic infrastructure for e-learning. Governments should set aside budget to provide Internet access to educational institutions.

Governments should encourage healthy competition and deregulate the telecommunications industry so that the cost of Internet connection will not inhibit the adoption of e-learning and broader Internet usage.

VII. Promote affordable access to technology by lowering tariffs on the high- tech goods that are critical for building the networks over which digital content is produced and delivered.

Those APEC economies that are not part of the Information Technology Agreement (ITA) should accede to this agreement.

APEC member economies not yet part of the ITA agreement: Brunei, Chile, China (will accede as part of WTO agreements), Mexico, Peru, Russia, Vietnam and Papua New Guinea

VIII. Commit to an open regime for services delivered over the Internet to ensure continued open access to the broader digital economy.

A growing digital economy will provide the impetus for greater private sector investment in new technologies, enriched local content and lower costs for users. Business will be the driver to promote expanded use of the Internet which will in turn benefit social applications such as e-learning, tele-health, cultural interaction, etc., but without the appropriate policy framework to encourage trade the benefits of attracting business will not be fully realized.

Specifically, APEC member economies should make applied commitments (which could be subsequently bound in broader WTO negotiations at a later date) in the areas of advertising, computer related services, basic and value added telecom, distribution of content, express delivery services, and certain financial services with respect to financial information and Internet payment.

IX. Provide intellectual property protection for digital content.

To encourage innovation in digital content which is necessary for full development of the learning potential of the medium, intellectual property rights in goods and services traded on the Internet should be afforded strong protection in accordance with the WTO TRIPS agreement and WIPO digital treaties.

Intellectual property regulation must be balanced to ensure a sufficiently open environment for the continuation of innovation.

Intellectual property concerns can only be addressed on a global basis. In some countries, great strides in protecting intellectual property and balancing the rights and obligations of content owners and online distributors have been made. An extension of this balance of protections in more countries, and to more people, will empower local cultural industries and will bring a new creative spirit to applications such as digital learning, especially in the non-English speaking Internet community worldwide.

CONCLUSION

“In order to establish a winning position in the New Economy, it is vital for APEC to develop a society and culture that place a high value on education and training. Enabling economies to access knowledge-based prosperity will involve governments and other stakeholders in providing comprehensive, high-quality education and training skills development programs including basic education and distance learning.”

— *The APEC Economic Leaders' Declaration, e-APEC Strategy, Shanghai, China, October, 21, 2001*

In the Brunei Declaration, Leaders committed to tripling access to the Internet by 2005. The Shanghai Declaration has further raised the stakes with laudable goals for closing the digital divide and promoting the development of human resources through use of Internet technologies. These are goals that must be met. The Asia Pacific e-Learning Alliance believes that by placing a priority on e-learning and adopting the policies that will promote an aggressive e-learning agenda, APEC economies can best prepare themselves to meet the competitive challenges that lie ahead.

During 2001, the Asia Pacific e-Learning Alliance worked closely with the APEC Business Advisory Council (ABAC) Technology Task Force — with Alliance views being incorporated into ABAC's recommendations on policies needed to enable e-learning and reduce the digital divide throughout the region.

The Shanghai Accord, adopted as part of the APEC Leaders' Declaration in October 2001, takes a first step in looking at trade policies for the New Economy on services, tariff and intellectual property regimes with the aim of developing targets for policy action by APEC economies in time for the 2002 APEC Ministerial meeting.

Many of the Alliance recommendations are also reflected in the eAPEC Strategy agreed to by Leaders in Shanghai. The Alliance urges private sector colleagues throughout the region to work with governments and academia to implement this strategy in all APEC economies. For its part, to further implementation, the Alliance will advise the APEC CyberEducation Project which partners entities in the United States, Korea, Hong Kong, Singapore, and New Zealand in an effort to improve and broaden online educational resources for secondary school teachers in APEC economies.

To the Asia Pacific e-Learning Alliance, the potential of the Internet is nowhere more obvious than in the area of education and human capacity building. The great universities and research centers of the world — both public and private — have placed entire collections online. Resources once available only to an elite few are now available to anyone with access to the Internet. A teenager in rural North America, Latin America or Asia can access resources previously unavailable. Access to the Internet also raises the productivity of workers and companies in a host of existing industries — manufacturing, farming, medicine — by providing access to market, commerce, agricultural and financial information.⁹

The ability to maximize the benefit of the Internet for education and human capacity building will depend on our ability to greatly expand Internet access, provide quality online content, and develop the tools that will enable everyone to use available technologies. This is a challenge that faces all APEC economies — and a challenge that can, and must be met.

⁹ For example, in the tiny village of Rovieng, Cambodia, access to the Internet has revived trade for the traditional silk weaving of the area by giving village tradeswomen access to customers all over the world, which has, in turn, invigorated the local economy of the village. See “Cambodian Village Wired to Future,” Washington Post Foreign Service, May 13, 2001, page A01.



For more information, go to the
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