ICT in Education in APEC - Challenges and Educational Responses

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Presented by Korea

ICT in Education in APEC
Challenges & Educational Responses

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Background

- Lack of general knowledge and skills about ICT (2010 IBM Tech Trends Survey)
- Needs expertise in ICT for every industry and labor market in future
- Needs to acquire the expertise in ICT through school education process
- Should pursue the efficiency of teaching & learning, as well as the use of ICT in education

Suggested Challenges in Innovation

- Use ICT effectively
- Use ICT appropriately
- Know how to identify best practices

By Ednet Coordinator
IT is important one of four strategic areas which educational systems should build for learning society in 21st century (‘00. 4. Singapore)

Using ICT in education is so important (‘04, Chile)

IT skills should be integrated into instructional guide, skill evaluation, and accountability systems (‘08, Peru)

Survey Analysis

- Overview of Survey
  - Purpose: to help member economies to create a framework for understanding each other and planning collaborative projects
  - The questionnaire was distributed to all economies by email
  - Eleven responses have been gathered so far
  - Structure of survey contents: 5 sections
  - Response type
    ① Check the appropriate item
    ② Open comments
### Section 1: “Overall situation in ICT use in education in your economy”

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Installing basic Infrastructure: providing and utilizing hardware and software for ICT</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Development and application of contents and strategies for ICT use in education</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>Integrating and innovating with ICT within the school curriculum</td>
<td>8</td>
</tr>
</tbody>
</table>

### Section 2: “Master Plans for ICT use in education at the government level”

<table>
<thead>
<tr>
<th>Economy</th>
<th>ICT Master Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thailand</td>
<td>Enabling future education with ICT</td>
</tr>
<tr>
<td>USA</td>
<td>U.S National Education Technology Plan 2010</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Pilot Scheme on e-Learning in Schools with a view to looking into how e-learning should be implemented in different school contexts.</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Universal provision of ultra-fast broadband connectivity to schools</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Smart school qualification standards</td>
</tr>
<tr>
<td>Mexico</td>
<td>Development and use of new technology in the educational system to support the inclusion of students in the knowledge society and expand their life skills</td>
</tr>
<tr>
<td>Japan</td>
<td>The Vision of Education Informatization</td>
</tr>
<tr>
<td>Peru</td>
<td>ICT infrastructure, Teacher training, ICT related curriculum, Collaboration with Public &amp; Private sectors</td>
</tr>
<tr>
<td>Singapore</td>
<td>An Intelligent Nation 2015</td>
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<tr>
<td>Brunei Darussalam</td>
<td>e-Hijrah</td>
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<tr>
<td>Chinese Taipei</td>
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</table>
Survey Analysis

Pre-ministerial Research Symposium

• Section 3: “Issues and/or difficulties in implementing policies of ICT use in education”

  – Past issues or difficulties: Many respondents (7 economies of 11) said that ‘Developing an overall ICT policy or plan in the education system’ was the major difficulty in past.

  – Current issues or difficulties: ‘Professional development of teachers and technicians,’ ‘Maintaining facility and system.’ and ‘Lack of benchmark for adapting ICT in education’ were the most common issues of the responded economies.

  – Future issues or difficulties: ‘Improving ICT access between school and home or between school and society’ and ‘Reducing some side effects of ICT such as digital divide and internet addiction’ were considered as important future issues.

Survey Analysis

Pre-ministerial Research Symposium

• Section 4: “Efforts to solve the issues/difficulties”

  – Past efforts: ‘Installment of basic physical infrastructure’ was the major area responded economies indicated.

  – Current efforts: All economies answered that they are making an effort for most areas of ICT use in education.

  – Future issues or difficulties: The responses showed that APEC member economies’ efforts for ICT use in education for the future seem to be relatively uncertain. The results show that they might consider most areas are important but not clearly decide yet future plan.
• Section 5: “Topics or areas of cooperation/collaboration in the next three years”
  
  - APEC member economies are most interested in the cooperative or collaborative work with other members, such as ‘Pre-and in-service teacher training on using ICT in education.’ The member economies also showed their interests in ‘Developing standards and evaluation system of ICT utilization skills for the education system.’
**Directions of Collaboration in ICT among APEC**

- Sharing experiences of each economy in the efficient and appropriate use of ICT for each subject
- Sharing experiences to establish national level master plan for using ICT
- Need training programs for pre-service as well as in-service teachers
- Need collaboration on teaching & learning using new technologies
- Need to share experiences and knowledge of using ICT in higher and life-long education as well as K-12 education

**Challenges in ICT**

- Master plan for the use of ICT in education in the national level
- Requiring expertise in ICT for all arenas of labor market and industries
- Increasing ICT infrastructure divide
- Continuing to research on educational uses of new technologies
- Increasing the use of ICT in higher and lifelong education
Many economies agree that ICT use in education is important. However, some of the developing economies need more appropriate master plan for ICT use in education in the national level. Appropriate master plan will drive systematic ICT use in education.

ICT is essential for teachers and students in 21st century. Every economy has tried to use ICT in education. However, the effort for ICT use in education varies on economical level.
**Challenge 3**

- Increasing ICT infrastructure divide among APEC
- ICT infrastructure for developing economies is inadequate comparing to the developed economies
- Need to resolve ICT infrastructure divide to achieve the economic development

**Challenge 4**

- Technologies have been constantly developed and each economy is trying to use new technologies in education
- Due to ICT infrastructure divide, discussion on the educational use of new technologies among APEC has been shrinked
Increasing ICT use in higher & lifelong Education

- Increase the number of students enrolling in higher & lifelong education
- Increase ICT use for teaching & learning in most of higher & lifelong educational institutions
- Increase the use of Web-based technology in both institutions

Potential Educational Responses to Challenge 1

- Sharing experiences from advanced economies to establish master plan for ICT use in education
  - Korea has experiences to establish such master plan for national level
- Collaborating among member economies about specific strategic plans after establishing master plan
### Potential Educational Responses to Challenge 2

- Using ICT skillfully in teaching & learning
- Improving ICT skills during pre-service training
- Improving students’ ICT skills as well as teachers’
- Establishing common standards and training programs for ICT skills in the APEC region
  - ICT accrediting system for teacher in Korea
  - Developing ICT instructor training programs

### Potential Educational Responses to Challenge 3

- Supporting continuously from developed economies to narrow the gap
- Building system to share educational multimedia materials on-line
  - E.g. : Edunet in Korea
  - Offline center to develop and to share educational multimedia materials by experts
Potential Educational Responses to Challenge 4

- Establishing joint research system for educational use of new technology among APEC members
  - Joint research with ICT experts from each economy
- Establishing APEC future model school for each economy
  - Each economy-driven model school
- Sharing experiences from advanced economies about the use of new & high-end technologies in education
  - E.g.: digital textbook, smart learning, wiki, SNS, etc.

Potential Educational Responses to Challenge 5

- Establishing collaborative systems to share higher & lifelong education using ICT
  - Learning management system (LMS), Cyber learning, Cyber training center, etc.
- Establishing exchange program for professors to share teaching experiences
For achieving the educational responses to the challenges, need a continuing and sustainable collaboration system (e.g., IACE in Korea), consisting of experts from each economy.

Strategies:
- Evolve existing human network (e.g., ALCoB system (ALCoB-T, S, U, EC, P))
- Increase more FTA programs for human resources among economies

Thank you

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