

Asia Pacific Ministerial Forum on ICT in Education 2013

Outcome Document



Ministry of Education of the
People's Republic of China



United Nations
Educational, Scientific and
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Asia Pacific Ministerial Forum on
ICT in Education 2013

Outcome Document

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AMFIE 2013 Background

The UNESCO Asia-Pacific Regional Bureau for Education (UNESCO Bangkok) and the Intel Corporation (Intel) co-organized the first Asia-Pacific Ministerial Forum on ICT in Education (AMFIE) in 2010.

The AMFIE was designed as an annual platform for policy-level knowledge exchange and dialogue, showcasing a number of promising models and experiences in developing, adapting and/or monitoring ICT in Education policies and practices in countries at different development levels. Participating high-level officials were invited to present specific needs and challenges that their countries face, opening up inter-directional dialogues to initiate or strengthen partnerships between emerging and high-performing countries.

AMFIE 2013 represented the fourth in the series of forums. With the theme "Fostering Favourable Policy Environments for Mainstreaming Sustainable Innovations", AMFIE 2013 was designed to contribute to the discourse on having a healthy balance between top-down strategic policy interventions and bottom-up field-level initiatives. Such balance in turn enables relevant, effective, and sustainable ICT-supported educational innovations to flourish and expand. The Forum was held on 26-28 November 2013 in Shenzhen, PR China, in partnership with Intel, the PR China Ministry of Education and National Commission for UNESCO, and the Shenzhen City Government, with support from the Korean Funds-in-Trust, the Korea Education and Research Information Service (KERIS), and the World Bank.

The objectives of the Forum were to:

- 1) Create platforms for sharing policies, challenges, experiences and innovations across countries in the Asia and Pacific region and beyond.
- 2) Provide regional directions and country-level support towards designing a policy-driven roadmap for scaling up ICT-enabled educational innovations at the school level to cover:
 - Identification of scalable and sustainable ICT-enabled educational models and innovations in the Asia and Pacific region
 - Fostering multi-directional dialogues on policy, research and practice for scaling up and deep-scaling ICT-enabled educational innovations at the national level
 - Examination of existing country opportunities, limitations and untapped resources in implementing scalable innovations against present state of policy, capacity or partnership

Ministry of Education officials from 27 Asia-Pacific countries were invited to engage in a multi-directional dialogue on policy development/review related to scaling up and mainstreaming ICT in Education innovations at the national or school level. Invited member states were asked to nominate two delegates each – one minister/vice-minister level and one senior official on education technology. Plenary sessions, panel discussions, case study presentations, and the Gallery Walk featured experts and program implementers from around the world at regional, national and institutional levels, who shared research findings, insights, opportunities, challenges, and best practices in implementing ICT in Education innovations. Discussions amongst participants, both formal and informal, enriched knowledge concerning how successful cases of innovations in a favourable policy environment could address localized issues and national goals and help in increasing relevance of new policies in education. The Ministerial Dialogue likewise served as a venue for the delegates to bring attention to

pressing issues in this area and to vocalize both the support that they need from various stakeholders as well as what they can provide to other countries.

Official representatives from twenty countries participated in the Forum. In total, AMFIE 2013 brought together 184 participants who were composed of Ministry of Education delegates, Chinese municipal education officials, researchers, speakers, school officials, programme implementers (Gallery Walk), and organizers to share and learn about recent ICT in Education innovations in the region and other parts of the world. The summary of the participant composition and comparison of country delegations are shown in Table 1 and Table 2 below.

Table 1: Summary of participant composition

Participants	Totals
Country Delegates (Also see Table 2)	60
Speakers	10
Gallery Walk & Other Participants	16
Local delegates	57
Organizers	
UNESCO	9
Intel	11
National Commission	3
Shenzhen	18
Total	184

Table 2: Comparison of AMFIE country delegations, 2012-2013

AMFIE Country Delegations	2013		2012	
Ministers	0	0%	4	8%
Vice Ministers, Deputy Ministers, Director Generals	14	23%	16	31%
Deputy Director Generals	13	22%	4	8%
Directors	14	23%	12	24%
Assistant Directors, Programme Officers, etc.	19	32%	15	29%
Total	60		51	

The 20 countries represented were as follows:

- | | |
|----------------------|-----------------|
| 1. Bangladesh | 11. Mongolia |
| 2. Bhutan | 12. Myanmar |
| 3. Cambodia | 13. Nepal |
| 4. China | 14. Pakistan |
| 5. India | 15. Philippines |
| 6. Indonesia | 16. Samoa |
| 7. Republic of Korea | 17. Singapore |
| 8. Lao PDR | 18. Sri Lanka |
| 9. Malaysia | 19. Thailand |
| 10. Maldives | 20. Uzbekistan |

Pre-Survey Results

The pre-Forum survey was designed to identify from the Forum participants the most pressing issues for participating countries and the support needed to resolve them. The main purpose of the survey was to help structure the Ministerial Dialogue session in advance so that more focused discussion could be made during the session. (Please refer to Appendix A for the full survey questions.) Data were collected between October 31st and November 25th, 2013. The 15 respondents were delegates and national ICT experts who participated in the Forum. The results are as follows:

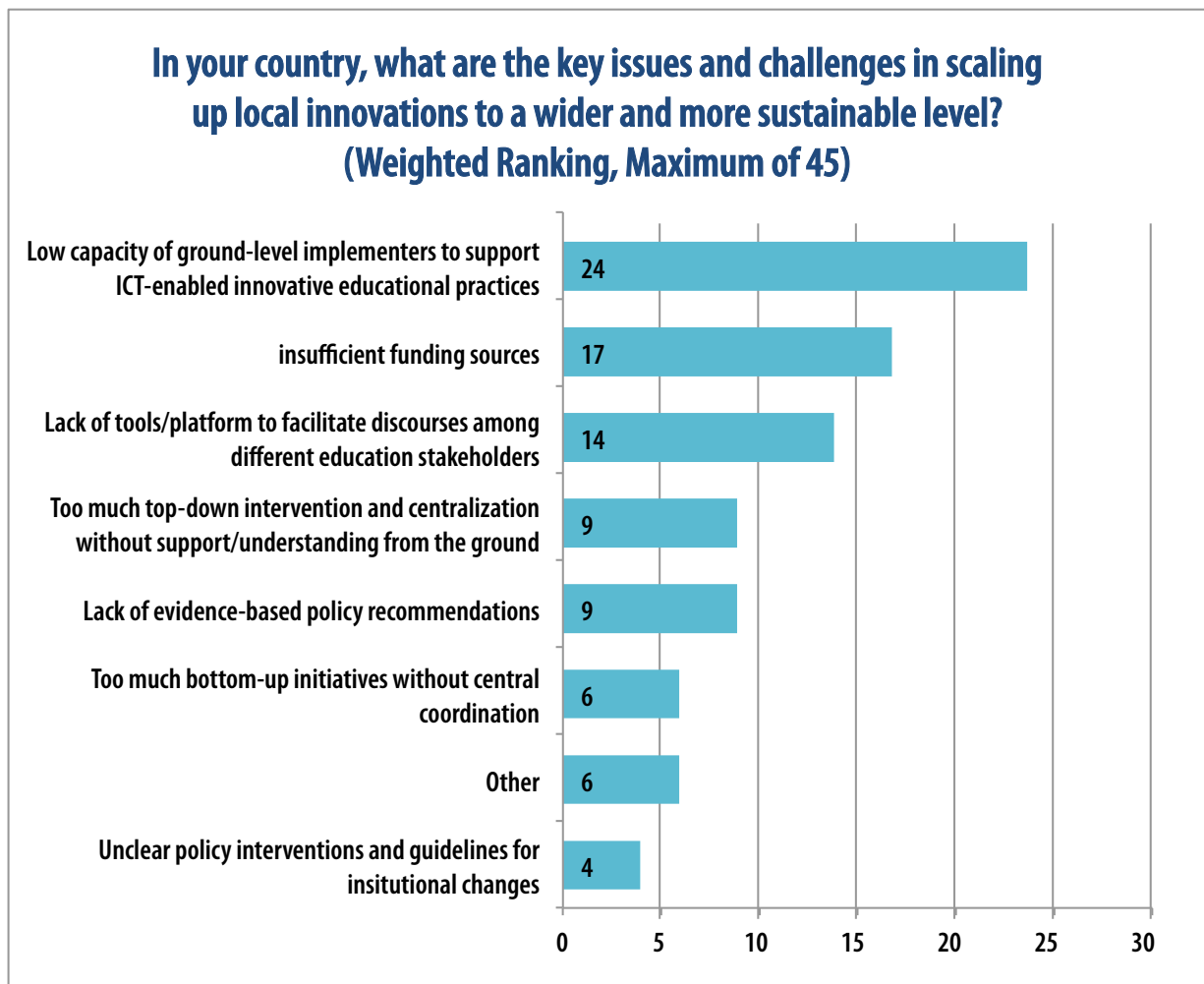


Figure 1: Key issues and challenges in scaling up local innovations

The respondents identified a variety of challenges in scaling up innovations in education. As shown in Figure 1, the most common response was the low capacity of ground-level implementers, followed by the need for more in-depth training for teachers and school administrators in order to enhance their ability to support ICT-enabled innovative educational practices. One respondent noted that few instructors have “high-end knowledge in sophisticated technology”, which created difficulties in starting truly innovative projects. In this situation, instead of exploring new pedagogical methods enabled by technology, ICT programs for instructors were largely constrained to learning about technology usage.

Many respondents also noted that the lack of funding and resources is a common impediment for the facilitation of ICT usage to a wider and sustainable level. At best, budget allocations to this sector are moderate, failing to meet the great demand from stakeholders. This may be due to the preponderance of new technologies, creating a constant need for more investment, or, more dangerously, a lack of clarity from stakeholders on their true technological needs.

A lack of platforms and tools to facilitate discourses among different stakeholders was also pointed out as a major obstacle to scaling up and sustaining innovative practices.

Ultimately, the challenges listed can be epitomized in the remark by one respondent that “the fundamental issue is managing change...As ICT entails adoption of new ways of doing things, educators may be reluctant”. This reiterates the importance of the holistic view of the ICT integration, including developing strong leadership and policy guidance, empowering teachers to apply technology in their teaching practices and moving away from overemphasizing the infrastructure.

Areas where support is needed

As a follow-up to the question of challenges, respondents were asked to identify the areas in which they most sorely desired support from outside parties.

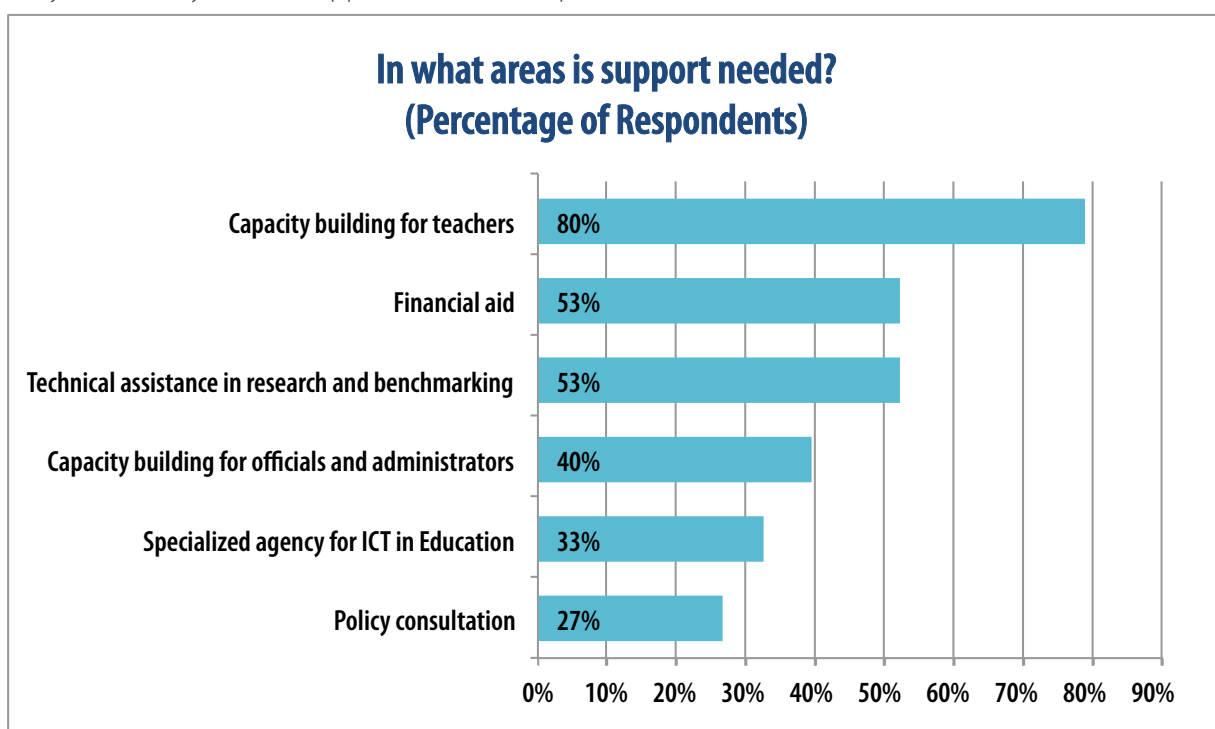


Figure 2: Areas where support is needed

As seen in Figure 2 above, respondents expressed a common need for capacity building for teachers, likely due to the constant upgrading and implementation of technologies within school systems. One pithy comment declared, “No matter how good the curriculum is or how well schools are equipped, teachers are crucial in translating them into useful classroom teaching.” Respondents noted the need for teachers to learn not only how to use technology effectively to enhance teaching and learning processes but also to assist in the management and administration of school activities. A typical comment noted that teachers needed to learn “to use the ICT in daily teaching, especially on how to

use the ICT in the teaching preparations". Several professed the desire for more international collaborations between teachers, with one respondent declaring that "School teachers need the practical experience of international cooperation and planning for students and the ability to apply it in real life situations, through various national and international exchanges." A similarly international note was raised by several respondents in professing the need for research assistance and benchmarking, with a typical refrain that "knowledge and experience acquired from countries worldwide serves to widen and deepen our contextual understanding of the various pedagogical and institutional learning needs"

Areas where support could be offered

Participants were also asked to detail the areas in which they could offer support to other nations. Figure 3 below details their responses:

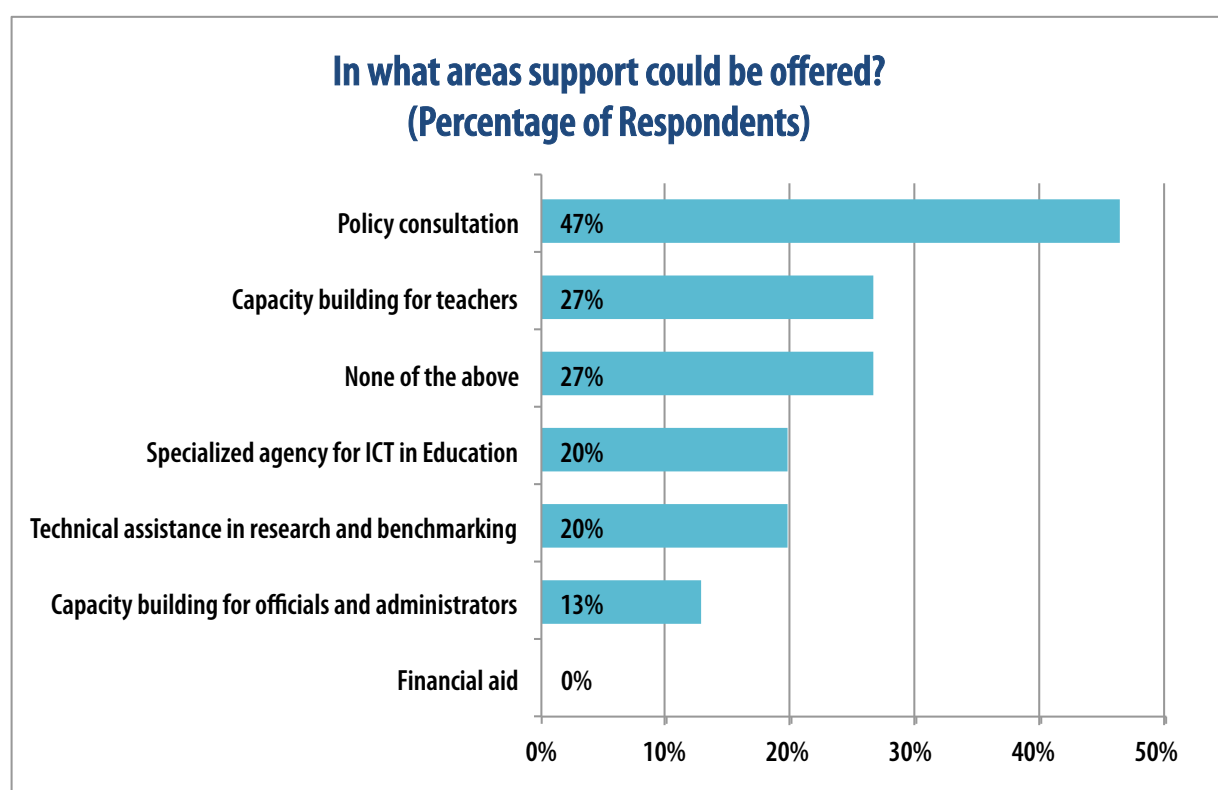


Figure 3: Areas where support could be offered

Among others, the following nations described specific initiatives that could be taken to develop an interregional network of support:

- Thailand's Ministry of Education has a clear-cut policy on promoting ICT in formal, non-formal and informal education to promote lifelong learning in Thai society. This policy consultation will bring about exchanges of ideas and experiences and will render mutual benefit for both sides.
- The Republic of Korea is actively engaged in international education development programs with partner countries worldwide. In Korea, government-funded research institutes are working in different specialized educational areas. KERIS, as the preeminent organization

responsible for the field of ICT education, is conducting ongoing education and research information practices worldwide. In particular, KERIS operates various global cooperation and partnership programs, and is conducting the Educational Cooperation Project to expand educational opportunities of the underprivileged and to improve their education quality through various ODA projects for developing countries.

- Bangladesh has several strong plans and frameworks created, including 'ICT Policy 2009', 'National Education Policy 2010' and Master Plan for Information and Communication Technology in Education (2010-2010). These could be shared with others.
- Malaysia can offer expertise in research on ICT education concerning policy formulation or operational matters in pedagogy, instructional design and program evaluation.
- Singapore has leveraged a centralized system to achieve recognition and success on various international fronts. The sharing of these learning insights, knowledge and expertise will serve to provide alternative perspectives to the Asia-Pacific educational ecosystem.

While these specific offerings provide much optimism for the development of interregional support networks, they are belied when compared to the previous question for support needed (Figure 4).

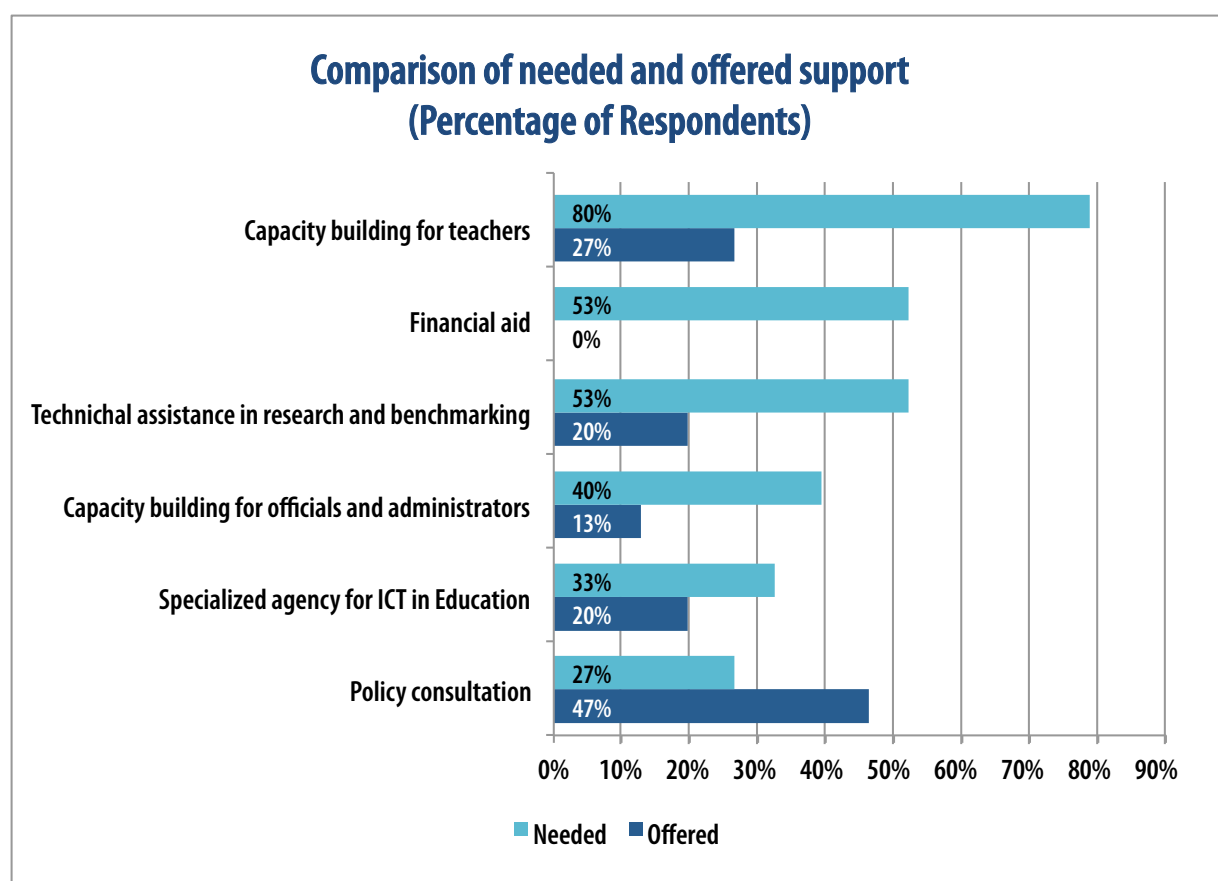


Figure 4: Comparison of needed and offered support

Aside from the area of policy consultation, there were more delegates calling for aid than were voicing their readiness to distribute it. This is particularly evident in the area of financial aid, where no country voiced its ability to provide support. These results suggested a pressing need for additional stakeholders and innovative formats of public private partnerships to mobilize resources.

Synthesis of case studies of innovation

The respondents identified several innovations taking place in their respective contexts that have been successfully scaled up.

In Sri Lanka, trilingual (English, Sinhala and Tamil) implementation of ICT courses has been achieved across the country, and the e-thaksalawa Learning Content Management System has been implemented at the ministerial level.

In Pakistan's Khyber Pakhtunkhwa Province, 300 Education Entrepreneurs were identified in remote areas and assisted to open schools and other educational centers.

In India, the Ministry of Education partnered with a bank to negotiate the interest rate and float tenders to help teachers buy computers or laptops at concessional interest rates.

In Thailand, UNESCO Bangkok, the Thai National Commission for UNESCO, and Rajabhat University collaborated on a series of workshops to guide teachers in developing their respective unit portfolios, with a focus on promoting student-centered learning through ICT-assisted facilitation approaches.

In South Korea, KERIS has focused on training and empowering lead teachers to create a nationwide network to share case studies and obtain feedback from the field.

A recent initiative from the Maldives comprised of school-based teacher professional development, which encouraged all teachers to obtain at least 15 hours of in-service training every year.

In Bangladesh, all students at secondary and higher secondary levels have received basic ICT training, and teachers have been training to use ICTs in the classroom, covering some 20,500 institutions.

All Malaysian schools are currently implementing the 1BestariNet initiative. There are two components under this initiative. The first is to connect all schools with broadband access of between 2-10 Mbps, and the second is to implement the Frog Virtual Learning Environment in all schools. For Frog VLE, every head teacher/principal, teacher, student and parent is given an ID to access the portal.

Furthermore, during AMFIE 2013, various initiatives for incentive programs were discussed, including both monetary compensation as well as recognition for exemplary teachers. These will be discussed in greater detail below. However, the issue of promoting a culture of risk-taking while maintaining a responsible educational environment remains as a particularly thorny puzzle to solve. Schools (and by extension, ministries) are under great pressure to demonstrate results to their stakeholders. The necessity of avoiding failure thus inhibits the ability of individuals operating within the system to attempt innovative processes.

Major Themes Across Sessions and Discussions

UNESCO staff reviewed the keynote, plenary, and panel discussions taking place at AMFIE 2013, noting both common trends of topics and unique ideas raised by individuals and groups. As a result of the review process, three major themes were identified as among the most significant lessons to be drawn from the forum proceedings.

Theme one: Educational function must dictate infrastructure design

In his opening address for AMFIE 2013, Qian Tang, UNESCO Assistant Director-General for Education, remarked that, “In the last many years, UNESCO has been promoting education using ICT because we believe that this is a very effective way to improve the quality, to improve the access, and also to reach the lifelong learning objectives.” He noted the need for comprehensive strategies to respond to the challenges faced in the areas of deployment of appropriate infrastructure, relevant teacher training and support and content. Given the value of multi-stakeholder partnerships and to promote ICT in Education, Mr. Tang emphasized that learning objectives should take precedence in the selection of infrastructure, particularly for knowledge exchanges.

The need for educational function to serve as the driver for change was reiterated during the Ministerial Forum, as Singapore’s representatives urged all delegates to think about ‘what is really needed’ first, then consider what infrastructure solutions would meet these needs. Two years was proposed as the minimum time to consider the pedagogical implications of technology before making investment beyond the basics. Responding to the theme of the AMFIE 2013, Dr. Cheah also shared his insights on Singapore’s experiences in transforming its ICT in Education Master Plans into school practices. He emphasized the need for the cultural mindset to change among teachers, school leaders, and policy makers. The ICT in Education transformation has to be one that is pedagogy-led, with ICT use going beyond knowledge transfer towards consolidation and deepening of experiences and learnings. He emphasized the importance of planning teaching and learning activities to incorporate 21st century skills into curriculum and assessments and the need to be “very structured to [allow] unstructured [learning to take place]”.

Mr. Abhimanyu Singh (UNESCO Beijing) stressed the need to look at existing and low-tech infrastructure before trying the “latest and greatest”. He cited the project “Planet Read” that uses same language sub-titling (SLS) via TV and film songs to improve reading/literacy among 200 million adult learners in India. He said that SLS is also being used in Finland to improve reading and retention.

Theme two: By teachers, not for teachers

This key point was first raised by Mr. Raju Varanasi of Education Services Australia during his session reviewing efforts underway in Australia to scale up teacher training. After describing national ICT competency standards that guide professional development programmes for pre-service and in-service training, Mr. Varanasi raised the critical question “Are these standards for the profession or by the profession?”

This line of thought was echoed by Dr. Soon Seng Thah in his discussion of Malaysia’s 1BestariNet Initiative, a crucial element of the Education Blueprint 2013-2025. 1BestariNet is a Virtual Learning

Environment (VLE) project carried out by the Malaysian Ministry of Education and YTL telecommunications providing every parent, student and teacher with access to online learning and informational tools. These include student tracking dashboards, interactive learning games, classroom sites for teachers, and applications to build more engaging lessons. While reviewing the success factors and challenges in implementing the VLE across the country's education system, Dr. Soon emphasized the need for getting users' buy-in on the form and content of the environment. Given the current emphasis on the use of online courses for professional development, it is critical to ensure that teachers are represented in decisions around the delivery mechanisms.

Theme three: Technology is changing how we learn, but it is not magic

In his keynote address, Mr. Bruce Dixon (Anytime Anywhere Learning Foundation, Australia) discussed the movement towards new learning environments, characterized by social (from "me" to "we"), self-directed (from dependency to autonomy), and inquiry-based (from "known" to "unknown") learning. In each of these environments, technology opens up new avenues for children (and adults) to learn. Similarly, during the Ministerial Forum, Australian delegates noted that, instead of attempting to recreate face-to-face work, attention must be paid to the unique potential created by virtual spaces.

This potential was reiterated by Mr. Wang Jian, (Associate Director, Education Bureau of Hunan Province, PR China) during his description of an innovative program for online education undertaken in Hunan. Mr. Jian described how his bureau established a professional basis for providing information online, thereby providing a means for students to learn in their spare time and at their own discretion. He spoke about the goal of breaking the traditional method of classroom learning, with the vision that, in fifty years, the online and self-directed model could become ubiquitous.

However, as Principal Chen Kee Tan (Crescent Girls School, Singapore) reminded the audience, technology is not magic, and we cannot expect the use of these new spaces to be a miracle cure for the educational issues that confront us. She emphasized the importance of a holistic implementation, with a focus on curriculum, pedagogy, and assessment and continuous professional development. She also emphasized the need for the establishment of a culture of ICT use within the school to provide inspiration and necessary support for teachers.

KERIS representatives voiced a similar note of caution that only the proper use of ICTs would have profound impact. New technologies will not necessarily lead to meaningful change, but would change the mode of delivery. They reinforced the need for cyber ethics – education for the responsible and safe use of ICTs, a topic echoed by Rosalie O'Neale in her description of the CyberSmart program in Australia.

KERIS representatives further demonstrated the necessity for careful research to determine the best usage of ICTs. As a national organization that is mandated to serve as a bridge between policy and practice in terms of educational innovation, KERIS is responsible for several government initiatives in ICT in Education, including teacher training and content development and repository, research, and international cooperation. The usefulness of a dedicated research institute was also demonstrated by Alexandre Barbosa from the Center of Studies on Information and Communication Technologies (CETIC) in Brazil. Using a multi-stakeholder approach, CETIC conducts ICT surveys to monitor and measure ICT use and adoption in various areas of society. The results have been used in re-thinking policies and changing mindsets to re-design more appropriate interventions.

Key Outcomes from Ministerial Dialogues

Drawing on the discussions and presentations from the plenary sessions, AMFIE 2013 included two separate Ministerial Dialogue sessions for participants to discuss and advance their viewpoints. The first was a more general discussion on topics of common interest, culminating in the selection of three priority concerns in implementing the integration of ICT in Education:

- 1) Capacity building for teachers
- 2) Divides between rural and urban areas
- 3) Sustainable funding/partnerships for resources

During the second Ministerial Dialogue, these topics were addressed in turn, with countries noting the elements of success and failure for each.

Capacity building for teachers

Indian delegates provided examples of using heavy professional development (over 21 days per year) and award systems to motivate teachers. Notably, teachers receiving awards became a resource pool for others, thereby cascading the learning and innovation. Similar programs were described in Indonesia, with competitions held for ICT best practices among instructors.

Drawing on the experiences of the Intel Teach program, representatives from Intel noted the importance of identifying a critical mass of early innovators, one large enough to catalyze changes, and then provide them with sustained resource support. Concurrent changes in assessment and curriculum are necessary to ensure that changes in practice will be sustained. The continued growth of online professional development models was seen as a potential 'game-changer', if implemented with enough flexibility.

The Singaporean delegates noted the importance of relationship building between pre-service institutes and schools. In their context, the National Institute of Education, Ministry of Education, and schools coordinated pre-service training to ensure that Ministry curriculum makes it into the schools. Each new teacher receives a minimum of two years of structured mentoring, allowing the system to respond rapidly to building capacity. However, the delegates did note that, in school systems, 'rapid' usually meant a period of three years. The Singaporean representatives closed by describing the entitlement system of 100 hours of paid professional development per year within the country, noting that a serious investment is made annually in terms of time for in-service training in all successful countries.

Divides between rural and urban areas

Intel's John Davies began by proposing the need for technical advisement on trade-offs between local storage capacities and the 'pipe-size' of the bandwidth necessary for schools to download educational content. He noted the viability of IT architectural solutions to solve issues of download speed, including the use of local hotspots/servers to cache information that can be accessed at LAN speed. Singapore's representatives struck a similar note on the need for careful technological planning. They

urged caution in planning for infrastructure developments, advising a minimum of two years to consider the pedagogical implications of technology before making investment beyond the basics.

The potential for additional issues underlying rural and urban gaps was raised by several delegates. The Bhutanese delegates noted that remote rural areas did not necessarily contain extreme poverty, but still had difficulties in attracting and retaining teachers. The solutions of combining schools and providing teacher incentives were discussed, with great hope being placed on the growing ubiquity of mobile technologies. Mongolian representatives noted that urban-rural issues often go hand-in-hand with language issues as well as exacerbating discrepancies in ICT comfort.

Sustainable funding/partnerships for resources

Overwhelmingly, the delegates agreed that the Universal Service Fund (USF) was a potential solution for infrastructure development. Originally put in place to bring fixed line phones to rural areas, USF funds can be large relative to the amount of discretionary funding in education. IT ministers in many countries have access to these funds and may be able to use them to increase connectivity for schools. At the three USF conferences per year organized by Intel, education ministries have the potential to “pull” and outside organizations can provide a “push” to ensure that the funding moves towards educational uses. Spectrum licensing fees were noted as another potential funding source to be explored at these conferences.

The assembled delegates provided examples of the use of USF in their own countries. In India, over four billion USD was allotted to extend connectivity to rural areas. Malaysia received USF monies through the Ministry of Communications, using them to fulfill their pledges for “one child, one device” and “one home, one PC”. The Malaysian delegates professed their hope that their recently released Virtual Learning Environment would bridge the rural and urban divide.

Conclusion and recommendations

AMFIE 2013 offered a unique space for delegates to provide their opinions on a range of topics. While the issues of teacher capacity, rural/urban digital divides, and sustainable funding may be considered predictable from the outside, the participants were able to describe the distinctive elements of these challenges in their own context, providing avenues for comment and fostering for greater understanding. The recounting of success stories in each area by respective delegates allowed for the initial development of new innovative solutions.

Recommendations from AMFIE 2013

Bring teachers to the forefront of Planning

Participants recognized that teacher capacity building is critical for the development of effective ICT-enabled lessons. However, too often standards, systems, and technologies are set and enacted “for the profession”. Moving to plans that are built “by the profession” is the only means towards ensuring a sustainable and long-lasting change within the education sectors. Regardless of the reform, empowering teachers to take control of their own changes is critical for success.

Institutionalize partnerships with the private sector to serve as a ‘testing ground’ for innovation

Ministries seeking to institutionalize a culture of innovation in ICT-in-Education often see a mismatch between the necessity for enabling a risk-taking environment and the demands of maintaining budgetary control and reporting to various stakeholder groups. The private sector, however, holds both the capacity and the culture necessary for the measured taking of risks. Therefore, providing private sector actors with the mandate to develop new methods for integrating ICT into the education sector can solve the thorny questions of culture that are at the heart of driving innovations.

Utilize international organizations as evaluation bodies

Innovation requires not only risk-taking, but also the careful measurement of each trial advancement to ensure that the best are scaled up. While dedicated research centers such as KERIS or CETIC are ideal, not every country has the resources to oversee such programs. The research expertise contained in the international organizations such as UNESCO and the World Bank should be utilized to evaluate any pilot programs.

Ensure that innovations do not adversely affect the safety of students

As seen in presentations by both the KERIS and Australian delegates, there are numerous corrosive effects of technology on society. Educating children (and adults) on how to navigate the increasingly perilous Internet landscape must be included in any long-term policy considerations. Furthermore, as new ways of utilizing technology in the educational realm continue to sprout up, particularly in the social media sphere, efforts must be taken to protect children from cyber bullying, obscene content, viral rumors, and invasion of privacy.

Continue to think beyond your borders

The spread of ICTs has changed our world. Lines of production and communication cut across national boundaries, and education is rapidly following suit. ICT will enable new forms of educational connections, and continue to drive innovations in the educational sphere. The potential to resolve both access and quality issues will only increase as policymakers and practitioners take steps to scale up effective practices.



APPENDICES

Appendix A: Pre-Forum Survey Questions



Introduction

Background

The main purpose of this survey is to help organize the Ministerial Dialogue scheduled on 27 November 2013 where country delegates identify pressing issues in mainstreaming ICT-enabled innovation in education. The Dialogue also encourages the establishment of networks and partnerships to support possible solutions to identified issues.

This survey seeks to enrich the Ministerial Dialogue by ensuring that the perspectives and opinions from each country are heard and reflected upon. In this regard, the organizing committee requires every participating country to complete the survey. Your time and effort will be greatly appreciated.

Questionnaire

Guided by the theme "Fostering Favourable Policy Environments for Mainstreaming Sustainable Innovations", AMFIE 2013 aims to promote policy dialogues on how to scale up and mainstream ICT-enabled educational innovation from the local and school level into wider and deeper levels.

Respondent's Information

*Respondent's Data

Name of Respondent (*): _____
Title: _____
Department/Ministry: _____
Country (*): _____
E-mail Address (*): _____
Phone Number: _____

Part I

This part consists of eight (8) short questions on issues and critical factors that your countries may face in scaling up educational innovation.

***1. In your country, what are the key issues and challenges in scaling up local innovations to a wider and sustainable level? (Please rank TOP THREE issues that your country faces, with 1 being the most pressing issues/challenges.)**

	1	2	3
Unclear policy interventions and guideline for the institutional changes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insufficient funding sources			
Low capacity of ground-level implementers (e.g. teachers, school administrators, local authorities) to support ICT-enabled innovative educational practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of tools/platforms to facilitate discourses among different education stakeholders (policy makers, researchers, and practitioners)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of evidence-based policy recommendation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too-much top-down intervention and centralization without support/understanding from the ground	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too much bottom-up initiatives without central coordination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (Please specify):	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***2. Related to your choices in Q1, please provide brief explanations of your choices and policy responses to the issues.**

***3. Related to the issues identified in Q1, please select up to THREE priority support areas your country seeks from other countries or organizations.**

- Policy consultation
- Capacity building for officials and administrators
- Capacity building for teachers
- Specialized agency for ICT in Education
- Technical assistance in research and benchmarking
- Financial aid
- None of the above
- Other (please specify):

***4. Please use this space to describe or elaborate on your choices in Q3.**

***5. What types of support would your country like to offer to other countries? Please select up to THREE choices.**

- Policy consultation
- Capacity building for officials and administrators
- Capacity building for teachers
- Specialized agency for ICT in Education
- Technical assistance in research and benchmarking
- Financial aid
- None of the above
- Other (please specify):

***6. Please use this space to describe or elaborate on your choices in Q5.**

***7. Relative to other countries in the Asia-Pacific region, how do you rate your country's policy environment in terms of the following? (With 1 being the lowest; 5 being the highest)**

	1	2	3	4	5	I don't know.
Creativity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Willingness to take risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership/political will to scale up innovation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Experimental approach to education innovation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promotion of field-level innovations through incentive programmes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Openness to partnerships with external organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (Please specify):	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Would you like to raise any specific issue in the Ministerial Dialogue Session? If so, please describe/elaborate.

Part II

This part consists of five (5) open-ended questions to gather specific cases of educational innovations that have been successfully scaled up in your country. Your input will be highly beneficial to other participating countries that wish to benchmark similar initiatives. UNESCO will appreciate your time and input.

***9. Has your country successfully scaled up local education innovations? If so, kindly provide a brief description of the project, main actors, its objectives, outputs, etc. If this question is not applicable, please indicate N/A in the response box.**

***10. What indicators did your country use in determining the success rate of these educational innovations/projects? If this question is not applicable, please indicate N/A in the response box.**

***11. Do you consider this success sustainable? If so, what indicators did your country use/look at in determining the sustainability of these educational innovations/projects? If this question is not applicable, please indicate N/A in the response box.**

***12. What do you see as the main contributing factors to the success and sustainability of these educational innovations/projects? If this question is not applicable, please indicate N/A in the response box.**

13. Thank you for your contribution to the Pre-AMFIE 2013 Survey. If you have any other comments, requests, and/or suggestions, kindly use the space below.

Appendix B: Post-Forum Survey Results

The post-forum survey assessed the relevance of individual AMFIE sessions and determined the likely impacts of the AMFIE on policy and practice within each country. The surveys were distributed immediately following the last session, with 22 respondents submitting answers. The results are as follows:

Table 3: Post-forum survey results

Please indicate the impact/relevance of each session to your delegation's mandate (With 5 as the highest)	Mean
Keynote Presentations	4.65
Plenary Session 1: Fostering Institutional Change with Policy Interventions	4.45
Panel Discussion 1: Scaling-up Teacher Professional Development to Support Students' 21st Century Skills	4.45
Ministerial Dialogue 1: Policy-making for ICT in Education	4.60
Plenary Session 2: Promoting Discourse Exchanges among Different Education Stakeholders at Macro, Meso and Micro Levels for Up-scaling	4.45
Panel Discussion 2: Mainstreaming School Innovations: Case Studies	4.67
Ministerial Dialogue 2: Key Recommendations and Way Forward	4.60
Gallery Walk	4.32

As shown in Table 3, the respondents found the panel discussion on the school cases (4.67/5) and keynote presentations (4.65/5) most relevant to their respective country contexts, although respondents' evaluation of the overall sessions were highly positive without any significant differences among sessions.

Survey respondents mentioned that they would like to replicate some of the initiatives programmes presented, namely: (1) incorporation of responsible use of ICT into school curriculum, (2) programmes introduced during the Gallery Walk, for example ChildFund Connect, Text2Teach, Hand-in-Hand, and Huawei's Enterprise solutions, (3) the KERIS model of a national educational technology research institute, (4) Singapore's Future School initiative, (5) multi-stakeholder engagement, and (6) bridging the digital divide between rural and urban areas. Some respondents mentioned that they would need to dialogue with their respective authorities to discuss which initiatives would be compatible and replicable in their countries.

The respondents gave a 3.91/5 rating for the extent to which AMFIE 2013 will impact education policy development within their countries, and a 3.67/5 rating for the extent to which AMFIE2013 will impact education practice (policy implementation) within their countries. The responses indicate that the delegates would need to discuss the insights they gained from the Forum with the country stakeholders to see how these can be used in their respective contexts.

Most of the respondents enumerated a number of actions that they need to prioritize before AMFIE 2014, ranging from the development/revisiting/harmonization of ICT in Education policy and master plan to learning more about good practices, development of content, relevant capacity building for

teachers and other education professionals, piloting ICT-enabled transformative pedagogy, monitoring ground-level implementations, and scaling up successful local programmes.

Suggestions for future AMFIE events included:

- Programmed opportunities for bilateral meetings aside from the ministerial dialogue to discuss concrete next steps
- Documentation of consolidated research findings and case studies, best practices at the classroom level, and models of teacher training
- Inclusion of ICT ministers in the Forum
- Ample instructions on the delegation's role during the Ministerial Dialogue
- More presentations/sharing opportunities from different countries
- More intimate small group discussions to discuss particular themes (to maximize participation)
- More evidence-based papers
- Similar (lower) level forums for knowledge exchange among technical staff
- Improved logistical arrangements

Suggested themes for AMFIE 2014 that stood out include: (1) promoting partnerships, (2) accessibility of education: reaching the unreached/bridging the rural/urban divide, (3) ICT development in primary education (and higher education), (4) use of ICT in Education for continuous professional development for teachers, (5) what does work and what does not work in implementing ICT policy, especially in budgetary considerations for ICT.

Preparations are already underway to implement these suggestions into AMFIE 2014.

Appendix C: Summary of Proceedings

Keynote addresses

Mr. Bruce Dixon (AALF, Australia) discussed the need to re-think and adapt school practices, the availability of resources, and expectations to be better attuned with the new learning environment, characterized by social (from “me” to “we”), self-directed (from dependency to autonomy), and inquiry-based (from “known” to “unknown”) learning. He affirmed the need for visionary policy leadership that truly re-imagines the possibilities within the context of the modern learner’s world.

Ms. Wu Yihuan (Vice Mayor of Shenzhen) reported that as the first city in PR China to focus and sink huge investments into ICT in Education, Shenzhen City educators have met a number of challenges on how to leverage these resources. Towards this end, the city is currently working on creating a favorable ICT environment by putting in place planning and policy measures for education modernization, standardization of equipment and infrastructure configurations between different schools to reduce gaps, improving network connectivity, and increasing cross-regional collaboration interaction. Teachers continue to receive capacity building interventions and are highly encouraged to initiate their own innovations.

Plenary 1: Fostering institutional change with policy interventions

Dr. Horn Mun Cheah (Singapore) shared his insights on Singapore’s experiences in transforming its Master Plan into school practices. He emphasized the need for the cultural mindset to change among teachers, school leaders, and policy makers. The ICT in Education transformation has to be one that is pedagogy-led, with ICT use going beyond knowledge transfer towards consolidation and deepening of experiences and learnings. He discussed Singapore’s efforts in incorporating 21st century skills into the curriculum and assessment practices. He likewise emphasized the importance of planning teaching and learning activities – the need to be “very structured to [allow] unstructured [learning to take place]”.

Mr. Cheng Yi (Anhui Province, China) discussed the challenges faced in implementing ICT in Education policies at the provincial level and for rural/remote areas in particular. He mentioned the need for better programme designs and unified standards that will support sustainability in the areas of funds/investment, legal guarantees, and the promotion of ICT applications.

Mr. Dendev Badarch (UNESCO Institute for Information Technologies in Education) discussed the various regional prospects in the area of ICT in Education policy that include: ICT for assessment, alternative models of education delivery, diversification of learning platforms, digital literacy, learning analytics, quality management and assurance in ICT-integrated pedagogy, teacher competencies, cost-efficient models of open learning and personalized learning, m-learning, and cloud computing.

Panel discussion 1: Scaling-up teachers professional development to support students' 21st century skills

Ms. Petra Wiyakti Bodrogini (World Bank, Indonesia) talked about the development and institutionalization of ICT-based tools for Teachers' Professional Development (TPD) in Indonesia, led by the Center for ICT for Education within the Ministry of Education and Culture and with technical assistance from the World Bank. She discussed the necessity for the institutionalization of the TPD programme, which also provides post-training coaching, follow-up and incentives.

Mr. Ge Zhenjiang, (Deputy Director General, Department of Teacher Development, MOE PR China) spoke about teacher training for ICT in Primary and Secondary Education. He noted the massive challenges of scaling up a system to encompass 10 million teachers, and the concurrent need for a set of standard systems for the use of information technology. Mr. Zhenjiang stressed the need to support the voluntary use of ICTs by teachers, as the different socioeconomic needs of each region would dictate different technological uses.

Mr. Raju Varanasi (Chief Operating Officer, Education Services Australia) reviewed the efforts underway in Australia to scale up teacher training. He noted the development and importance of national ICT competency standards for teachers that guide professional development programmes for pre-service and in-service training, raising the critical question, "Are these standards for the profession or by the profession?" Mr. Varanasi provided several examples of the types of online professional development programs and their results, with the cautionary note that correlation to student outcomes was not yet possible due to the number of variables. He advised that 'next step' models should include suitable research methods for causation and prediction.

Mr. Anshul Sonak (Intel Teach) described the efforts made by Intel to promote ICT literacy among teachers around the world. He noted that it was critical to keep the process as simplified as possible, and that teachers learn best when they get a peer-to-peer community environment.

Mr. Wang Jian, (Associate Director, Education Bureau of Hunan Province, PR China) presented "Teaching beyond the Classroom: New Forms of Online Education" by describing an innovative program undertaken in Hunan. Mr. Jian described how his bureau established a professional basis for providing information online, thereby providing a means for students to learn in their spare time and at their own discretion. He spoke about the goal of breaking the traditional method of classroom learning, with the vision that, in fifty years, this model could be a ubiquitous mode of teaching.

Plenary 2: Promoting discourse exchanges among different education stakeholders at macro, meso, and micro levels for up-scaling

Mr. Alexandre Badarch (CETIC, Brazil) discussed how appropriate, relevant, reliable, cost-effective, interdisciplinary statistics and indicators could help in bridging the gap between policy and practice. Using a multi-stakeholder approach, his organization conducts ICT surveys to monitor and measure ICT use and adoption in various areas of society. The results have been used in re-thinking policies and changing mindsets about what the targets are versus what's really happening – hopefully, to re-design more appropriate interventions.

Mr. Jongwon Seo (KERIS, Republic Korea) talked about the establishment of KERIS, a national organization that focuses on ICT in Education implementation in order to bridge policy and practice in terms of educational innovation. He discussed the various areas that KERIS is responsible for, including teacher training, content development, conducting research, and facilitating cooperation.

Ms. S. Radha Chauhan (India) discussed how India went about engaging various stakeholders in the formulation of ICT policy at the federal level. She also discussed the Teachers' Capacity Framework that allows teachers to self-assess their respective levels and make targets using a standardized tool. She highlighted the role of state governments and district level offices in implementing programmes aligned to the policies.

Principal Cheng Xiandong (Shenzhen Nanshan School, PR China) talked about the school's innovations in the area of ICT in Education, including: use of the cloud environment, high-speed connection, gamification, e-books for self-directed reading, and flipped classrooms (to respond to individualized learning needs). She also enumerated the school's future experiments on sharing of resources across schools, individual spaces for teachers, and "wisdom school". She emphasized that she relied greatly on the passion, dedication and initiative among the teachers.– In return, she makes sure that support and acknowledgement are provided.

In line with cost efficiency and widening the reach, Mr. Abhimanyu Singh (UNESCO Beijing) also mentioned the need to look at existing infrastructure, albeit low-tech. He cited the project "Planet Read", which uses same language sub-titling (SLS) via TV and film songs to improve reading/literacy among 200 million adult learners in India. He said that SLS is also being used in Finland to improve reading and retention. It is also useful for the hearing-impaired.

Panel discussion 2: Case studies in mainstreaming school innovation

Ms. Chen Kee Tan (Crescent Girls School, Singapore) reminded the audience that technology is not magic. She emphasized the importance of a holistic implementation that covers six elements. She focused on two elements: (1) curriculum, pedagogy, and assessment (i.e. not focusing on technology per se); and (2) continuous professional development (i.e. levelling up the baseline of teacher competencies across the school). She also emphasized the need for the establishment of a culture of ICT use within the school, focus on innovation, the value of conducting relevant research, and providing inspiration and necessary support.

Dr. Soon Seng Thah (Malaysia) discussed Malaysia's 1BestariNet Initiative that serves as a crucial element of the Education Blueprint 2013-2025. He discussed the users' perceptions, success factors, and challenges in implementing the Virtual Learning Environment (VLE) across the country's education system. He emphasized the need for getting users' buy-in, the proper change in management, continuous professional development, and quality assurance.

Ms. Rosalie O'Neale (Australia) talked about the Australian Communication and Media Authority's CyberSmart program, an initiative that started off focusing on child protection but has expanded into the broader topic of "safe and responsible online use in everyday life". She discussed the various processes involved, including research, needs analysis, continuous consultations, mainstreaming (not add-on) into educational programmes, ongoing evaluation, and multi-stakeholder engagement. The programme retains its relevance by constantly evolving as technology has done the same.

Mr. Praveen Prakash (India) discussed the country's ICT in Education programme for higher education, which reaches 25,000 colleges and 26million students. He proudly reported on the in-house development of applications and content being provided to colleges for free. He also mentioned the \$50 Aakash2 tablets that were locally developed as well.

Principal Sun Wei (Xiangbin Primary School, PR China) discussed the research that the school has been conducting to look into students' learning behaviors and different teaching methods. The research results served as basis in systematizing processes and resources towards putting in place a holistic framework that promotes individualized learning and innovative teaching with the support of ICT. She also emphasized the need for individualized support for teachers. In a thoughtful comment, Mr. Bruce Dixon reiterated the need to give importance to both mainstreaming and innovation.

Ministerial dialogue (MD)

The MD during Day 1 focused on a discussion of the countries' pressing issues in the area of ICT in Education vis-à-vis scaling up and mainstreaming innovations, which were narrowed down into three priority concerns: (1) teacher capability building, (2) the gap between rural and urban areas, and (3) sustainable funding/partnerships for resources.

The MD during Day 2 looked into the results of the Pre-Forum Country Survey. The Survey included an enumeration of the expressed needs of and possible supports from the participating countries in the areas of: policy consultation, capacity building for officials and administrators, capacity building for teachers, specialized agencies for ICT in Education, technical assistance in research and benchmarking, and financial aid. A number of country delegates shared their challenges as well as their respective programmes and strategies in the area of teachers' capacity building and bridging the gap between rural and urban areas. Intel offered assistance in these two areas (i.e. Intel teacher training programmes and IT architecture solutions). Various delegates talked about their respective programmes (incentives/ICT awards, sharing of best practices, mentoring programmes, sponsored continuing professional development (CPD) and scholarships, synergistic alliances, teacher exchanges, public-private partnerships (PPP), the use of USF, etc.). Dr. Cheah from Singapore emphasized the need to think of what is really needed before designing and developing infrastructure architecture ("what are you going to use it for?"), guided by pedagogical requirements. There was an expressed need for the sharing of good practices through relevant documentation.

UNESCO Bangkok's Director, Mr. Gwang-Jo Kim, and Mr. John Davies asked the country delegates to translate discussion points into actions. Countries laid out the following points:

Bhutanese delegates declared themselves to be in a comfortable position concerning policies and skills, with strong policy development and political leadership, and a master plan in place for ICT and large-scale training on ICT literacy. Support was desired in the areas of implementing major plans and taking ICT 'to the next level'.

Singapore highlighted their hopes for collaborations beyond AMFIE, seeking means to enable environments for teachers to cater their teaching to each student's needs. The delegates noted the need for a collective rethinking of assessments, moving beyond high-stakes testing regimes focused on academic skills and towards the assessment of non-cognitive skills, including the ability to operate in a digital and interconnected environment.

The Cambodian representatives described their capacity building gap, which includes absent infrastructure in the remote areas where eighty percent of their population lives. In response, Intel made a commitment to provide IT architects for workshops on low-power or solar solutions with local industry, with the goal of linking development partners to the greatest extent possible.

Myanmar noted their experience generating electricity through solar cells and the willingness of the government to offer that expertise to other nations. The delegates expressed their wish to partner with Intel to help develop specific ICT skills within their curriculum.

Indonesia mentioned the all-too-common refrain of having concrete Master Plans in place but lacking the strong cross-sectoral partnerships necessary to achieve them. The representatives noted the need for additional topic strands in future conferences and workshops as well as the potential for teacher-focused seminars throughout the Asia-Pacific region.

The South Korean representatives noted the need to consider a wide range of related areas when conducting studies and focusing research for action. They described methods to build monitoring and evaluation (M&E) systems to determine the efficacy and efficiency of endeavors. However, the KERIS delegates noted that M&E systems often failed to consider the societal effects of technology, in particular the impact that the ubiquity of mobile devices is having on students. Recognizing that the uptake of rapid expansion of technology requires assistance and regular communication, KERIS offered documentation and resource sites for capacity building sessions for teachers and policymakers.

Noting the common issues faced in assisting teachers and young people, Australia's representatives offered their expertise around the responsible and safe use of ICTs. Having conducted considerable research within the country on the impacts of ICTs on young people, Australia offered access to Creative Commons resources for use and adaptation.

The Philippines laid out the various efforts underway in their education system. Projects due for completion in 2014 included the provision of computers to all schools, the utilization of ICTs in management systems, and the development of a school-based system for training. Challenges remain in profoundly integrating ICT into the teaching and learning process and creating their own ICT development platform. The delegates expressed their hope to learn from KERIS and Brazil and that their partnership with Text2Teach, a PPP created in 2003 with the goal of advancing ICT in teaching and learning, would continue to allow content to be brought to the most remote areas.

The Indian delegates noted that they have already institutionalized ICT training processes on a large scale, and will provide assistance to any country seeking support. They reminded AMFIE participants that many strides had been made in ICT in Higher Education, and that there was no need to re-invent the wheel. The delegates closed by expressing their wish to see ICTs used to ensure a quality education is provided to all by moving from policy to action.

Bangladesh described numerous initiatives, including the provision of laptops to schools and colleges with 12 days of ICT training and the inclusion of ICT as a compulsory subject in the national curriculum. Additionally, projects are underway to provide electricity and computers to all primary and secondary schools. However, infrastructure remains an issue, particularly the low availability of computer accessories and service centers, and there are some worries that older teachers may not adopt ICTs easily.

The Sri Lankan delegation noted that they have a strong Master Plan in place, but need consultants to streamline the content. Additionally, the nation is seeking funds for infrastructure, both to buy new and replace old and outdated technology, as well as funds for teacher training. Master teachers are in place, but assistance is needed for program implementation. The delegate closed with a wish to develop new partnerships and an invitation for all participants to visit Sri Lanka.

Pakistan noted that the country had several strengths in the use of ICT in the Higher Education sector, and were looking forward to working with others who have made progress in ICTs at the school level. They have developed a testing and assessment framework for virtual learning environments, a marker of their commitments in place to focus on the school level.

Malaysia shared their progress in transforming ICT teaching in schools, moving from computer labs to mobile labs. Given their expertise in bridging urban and rural divides, the country is willing to send out experts to the Asia-Pacific region to assist with implementing ICT connected knowledge. The transformation of Malaysia through the use of ICT is contained in the national blueprint, which is available on the country's MOE website.

The Nepalese representative expressed his gratitude for being included in AMFIE 2013 and laid out the myriad needs for Nepal in the area of ICT-in-Education. These include concrete and clarified policy, expanding ICTs for rural areas, capacity building for teachers, developing interactive digital contents, and engaging a wider array of stakeholders. Given the large amount of budget devoted to teacher salaries, investment will be needed to accomplish these tasks.

Laos PDR described their action plan in place for use of ICT at all levels of school and the wish to continue to spread ICTs through all types of education. A clear need for partnerships to develop ICT policy, professional development, and curriculum design was expressed, with many participants ready to assist.

The Samoan representative admitted that the integration of ICT in Education remains unborn within the nation, with a lack of clear policies. They have seen the benefits from donor partners equipping schools with resources, but also said that barriers remained for integration, including a lack of policy work and need for capacity building at all levels.

The Maldives described the implementation of teacher training programs, though support is needed for accreditation. The geographic spread of the archipelago has led to a large number of schools with low student populations, thus necessitating multi-grade teaching. To effectively conduct these mixed-age classrooms, the country needs assistance with using ICT to provide student support and relieve burdens on individual teachers. In response, UNESCO representatives professed a willingness to share in the task of setting up a workshop, and Intel noted that they can provide architects for workshops or bring representatives from the Maldives to conferences outside of the country.

The Mongolian delegates laid out the high importance placed on ICT usage, describing the National policy on ICT in Education currently under development. Regional centers will be connected via fiber optics, with open educational resource (OER) portals for teachers. However, a need exists to organize human development training courses. In response, the Institute for Information Technologies in Education (UNESCO) offered research and policy briefs and methodology for documenting competency frameworks and assistance in workshops on OER.

PR China closed AMFIE 2013 with one wish and one suggestion. The wish was for Chinese participants to be re-invited for future AMFIE events. The suggestion was to focus next year's meeting on using ICTs to manage student data to support better service provision.

To further enrich the AMFIE 2013 experience, additional activities were as follows:

- 1) The Gallery Walk (Days 1 & 2) was intended to actively engage participants in generating mutual interests for potential bilateral cooperation on ICT-enhanced innovations in education. Country delegates and other forum participants were given opportunities to freely visit various stations to learn more about promising programmes and projects across the region. Seven programmes/projects showcased by multilateral and development cooperation agencies and the private sector. Refer to the Gallery Walk booklet in the Annexes.
- 2) Three options were provided by the Shenzhen Education Bureau for the Study Visit session on Day 3. Participants were taken to different schools in the city to see how ICT is actually used in the educational setting by both teachers and students. Participants also had the opportunity to take a brief trip to some local companies (e.g. Huawei) or cultural spots (e.g. Shenzhen Museum).
- 3) The afternoon of Day 3 featured two separate 3.5-hour workshops – one on policy development (Intel's toolkit) and the other on the use of mobile technology for education.



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