Educational Responses to a Changing World: Embracing Technologies, Empowering Teachers

Gwang-Jo Kim
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27 May 2014
Central Asia Symposium on ICT in Education
Tashkent, Uzbekistan
Outline

• Important Trends in Asia Pacific
• Educational Trends in Asia Pacific
• Progress towards the EFA Goals
• An Indicator for Quality Education: Teachers in AP
• Empowering Teachers with Technologies
• UNESCO’s Work
• Ways Forward
Important Trends in Asia Pacific
Composition of the world’s GDP, by regions

Annual real GDP growth rates, Asia and the Pacific, USA and EU (2006-2011)


Source: ESCAP (2013), Statistical Yearbook for Asia and the Pacific

* ENEA: East and North-East Asia / SSWA: South and South-West Asia / PIDE: Pacific Island dev. Econ / NCA: North and Central Asia / SEA: South-East Asia
Rising middle class population

The middle class in the South is projected to continue to grow.

Source: Brookings Institution (2012)

Note: The middle class includes people earning or spending $10–$100 a day (in 2005 purchasing power parity terms).
**Value-added** by sector (% of total value added) – 1990 and 2009

Source: United Nations (2011), Statistical Yearbook for Asia and the Pacific
### Labor Market Change

#### Share of Employment by Sector
(%, % change past decade (1999-2009))

<table>
<thead>
<tr>
<th></th>
<th>Agriculture</th>
<th>Industry</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level</td>
<td>Change</td>
<td>Level</td>
</tr>
<tr>
<td><strong>WORLD</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developed Economies &amp; EU</td>
<td>3.7</td>
<td>-1.9</td>
<td>23.4</td>
</tr>
<tr>
<td>Central and South-Eastern Europe (non-EU) and CIS</td>
<td>20.1</td>
<td>-6.9</td>
<td>24.6</td>
</tr>
<tr>
<td><strong>East Asia</strong></td>
<td>36.9</td>
<td>-11.0</td>
<td>27.8</td>
</tr>
<tr>
<td>Southeast Asia &amp; the Pacific</td>
<td>44.3</td>
<td>-5.1</td>
<td>17.7</td>
</tr>
<tr>
<td>South Asia</td>
<td>53.5</td>
<td>-6.0</td>
<td>18.9</td>
</tr>
<tr>
<td>Latin America &amp; Caribbean</td>
<td>16.3</td>
<td>-5.2</td>
<td>22.2</td>
</tr>
<tr>
<td>Middle East</td>
<td>19.1</td>
<td>-3.0</td>
<td>26.1</td>
</tr>
<tr>
<td>North Africa</td>
<td>27.8</td>
<td>-1.5</td>
<td>22.5</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>59.0</td>
<td>-3.4</td>
<td>10.6</td>
</tr>
</tbody>
</table>

Source: ILO (2011), Global Employment Trends
**Occupational Shift**: the recession has accelerated longer term trends towards a reduction in middle-income occupations.

Employment Gaps

**Unemployment rate**, total and youth, latest period in 2012/13 (%)

**Male-female gap in labor force participation**, 2005 and latest period (%p)

Source: ILO (2013), Asia Pacific Labor Market Update
In 2009, the male-female gap in terms of labour force participation rate for Asia-Pacific was **25.2 percentage points**, while in Central Asia, it’s **45 percentage points**.


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In many cases, young women are doing better than young men in school. Except for East Asia, labour participation is significantly lower for young women than young men. Female youth still encounter more barriers to making the transition from school to work.

Regional cooperation and integration

### Asia Pacific Economic Cooperation (APEC)
- Canada, Chile, Hong Kong, Mexico, Papua New Guinea, Peru, Chinese Taipei

### East Asia Summit (EAS)
- **ASEAN+3**
  - **ASEAN**
    - Brunei Darussalam, Vietnam, Singapore, Malaysia, Indonesia, Thailand, The Philippines
  - **China**
  - **Russia**
  - Cambodia, Lao PDR, Myanmar

### Shanghai Cooperation Organisation (SCO)
- Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan

### South Asian Association for Regional Cooperation (SAARC)
- Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan, Sri Lanka

*Source: Prepared by UNESCO Bangkok, based on information from the websites of the respective organisations*
Demographics

Population Pyramid of the Asia and Pacific region in 1950, 2012 and 2050

Source: ESCAP (2013), Statistical Yearbook for Asia and the Pacific
Demographic challenges: Country perspectives

Asia’s collectively has a large youth population but wide regional disparities provide opportunities for collective problem solving.

India and the Philippines (respectively) have a “youth bulge” and will face challenges educating and providing jobs.

China, Japan, Korea, and Singapore (respectively) have population “pillars” and are likely to have aging populations.

In Central Asia, around half of the population is younger than 25
Mobility and migration of international migrants

Origin and destination of international migrants

Source:
Technological Advances

Mobile-cellular subscriptions, Asia and the Pacific and the world, 1995-2012

Number of Internet users, fixed (wired)-broadband and active mobile-broadband subscriptions, 2005, 2010 and 2012

Source: ESCAP (2013), Statistical Yearbook for Asia and the Pacific

* ENEA: East and North-East Asia / SSWA: South and South-West Asia / PID E: Pacific Island dev. Econ / NCA: North and Central Asia / SEA: South-East Asia
Occurrence of natural disasters

Number of the occurrence of natural disasters over time


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Armed Conflicts in the Asia and Pacific Region (2014)

Source: conflicstmap.org
## Emerging Trends

<table>
<thead>
<tr>
<th>Emerging Trends</th>
<th>The need for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic growth</td>
<td>Education systems to adapt</td>
</tr>
<tr>
<td>Growing youth unemployment</td>
<td>“Transversal” and 21st century skills</td>
</tr>
<tr>
<td>Changing labour structures</td>
<td>Lifelong learning to support learners to continue to explore and master new</td>
</tr>
<tr>
<td>Increasing inequality</td>
<td>skills throughout life</td>
</tr>
<tr>
<td>Rising middle class</td>
<td>Training also for non-existing jobs</td>
</tr>
<tr>
<td>Changing population dynamics</td>
<td>Preparing students for migration</td>
</tr>
<tr>
<td>Increasing mobility and migration</td>
<td>Learning beyond the classroom e.g. via ICTs</td>
</tr>
<tr>
<td>Technological advances</td>
<td>Various pathways to learning</td>
</tr>
<tr>
<td>Natural disasters and conflicts</td>
<td>Leveraging cultures, value systems, languages and traditions</td>
</tr>
<tr>
<td>Regional cooperation and integration</td>
<td></td>
</tr>
</tbody>
</table>

In sum... Changes are **unceasing and non-linear**.

In sum... There needs to be **transformative changes in education**!
Educational Trends in Asia Pacific
“Push and Pull”
Between Education and Development

Source: GJ Kim, Training Workshop on Education Policy Formulation & Monitoring, UNESCO
Education as a Source of Development

Percentage of population by educational attainment, age 15+, total, completed secondary

GDP per Capita (constant 2000 USD)

Source: World Bank Database
Education Expansion: Access to pre-primary education has expanded

**Gross enrolment in pre-primary education**: growing in Asia and the Pacific (2000 and 2011)

Source: ESCAP (2013), Statistical Yearbook for Asia and the Pacific
**Gross enrolment ratios for Bachelor’s programmes** by country or territory, 1980-2011

- Most middle and low income countries in the region have made much progress in widening access to Bachelor’s degree programmes.

- In China, Lao PDR, Malaysia, Nepal and Sri Lanka, the gross enrollment ratios for Bachelor’s programmes have increased over 10 times over the past four decades.

Source: UNESCOUIS (2014), Higher Education in Asia
The SLE provides an estimate of the number of years of education a child can expect to receive at a given level of education.

Globally, a child entering school could, in 2012, expect to spend on average 1.6 years in tertiary education. In 2000, a child would have expected to spend only 0.9 years in tertiary, almost half of the time spent in 2012.

In Central Asia, the time expected to spend in tertiary is of 1.1 years (2012).
In all countries in Central Asia the SLE has increased overtime.

In relative terms, for the most recent year, the amount of time spent in tertiary in Kyrgyzstan accounts for 21% of the SLE (primary to tertiary) while in Uzbekistan it only accounts for 4%.

Note: no data for Turkmenistan

Source: UIS database, May 2014
Public expenditure on education as a percentage as a percentage of total government expenditure and GNP, selected years 2007-2010

- Government expenditures on education vary significantly across countries:
  
  As % of total budget: 8.5% in Brunei Darussalam vs. 22.3% in Thailand (2010)
  As % of GNP: 2.7% in Cambodia vs. 7.6% in New Zealand

Source: UIS (2012)
Investment in Basic Education

Public Expenditure on Education by % of GDP

Source: UIS data centre

Notes: No data is available for Turkmenistan and Uzbekistan.
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Quality in cognitive skill development (TIMSSS)

### 4th Grade Mathematics

<table>
<thead>
<tr>
<th>Percentages of East Asian Students Reaching International Benchmarks In TIMSS 2011, Fourth Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advanced 30% or More</strong></td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>43% Singapore</td>
</tr>
<tr>
<td>39% Korea</td>
</tr>
<tr>
<td>37% Hong Kong SAR</td>
</tr>
<tr>
<td>34% Chinese Taipel</td>
</tr>
<tr>
<td>30% Japan</td>
</tr>
<tr>
<td>Next Highest Percentage</td>
</tr>
</tbody>
</table>


### 8th Grade Mathematics

<table>
<thead>
<tr>
<th>Percentages of East Asian Students Reaching International Benchmarks In TIMSS 2011, Eighth Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advanced 27% or More</strong></td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>49% Chinese Taipel</td>
</tr>
<tr>
<td>48% Singapore</td>
</tr>
<tr>
<td>47% Korea</td>
</tr>
<tr>
<td>34% Hong Kong SAR</td>
</tr>
<tr>
<td>27% Japan</td>
</tr>
<tr>
<td>Next Highest Percentage</td>
</tr>
</tbody>
</table>

PISA 2012: Performance of countries in Asia and the Pacific

Correlation between Mathematics and Problem Solving Scores, PISA 2012

- Shanghai, China
- Hong Kong-China
- Chinese Taipei
- Singapore
- South Korea
- Japan
- Macao-China
- Australia
- OECD Average
- Malaysia

Source: Prepared by UNESCO Bangkok, based on data from the OECD Programme for International Student Assessment 2014 Database.
PISA 2012: Performance and Equity

Performance and equity

- Strength of the relationship between performance and socio-economic status is above the OECD average
- Strength of the relationship between performance and socio-economic status is not statistically significantly different from the OECD average
- Strength of the relationship between performance and socio-economic status is below the OECD average

650

Above-average mathematics performance
Below-average equity in education opportunities

600

Mean mathematics score

550

500

450

400

350

300

Percentage of variation in performance explained by the PISA index of economic, social and cultural status

Less equity

Greater equity

Source: OECD, PISA 2012 Database; Figure II.1.2.
Progress Towards the EFA Goals
Quick overview of the progress made since 1999

From 1999 to 2011, all 6 EFA goals have improved in the Asia-Pacific region and globally.

For all 6 goals, the achievement done was more important in Asia-Pacific than globally. For example, the GER in pre-primary in A-P improved by 25 percentage points between 1999 and 2011 compared to 17 percentage points globally. Goal 1 saw the biggest improvement.

Note: Goal 1 is represented by the GER in pre-primary, Goal 2 by the ANER in primary, Goal 3 by the GER in secondary, Goal 4 by the adult literacy rates, Goal 5 by the GPI of the ANER in primary and Goal 6 by the gross intake rate in the last grade of primary as a proxy of completion rate.

Source: UIS database February 2014
## Progress towards the six EFA Goals

<table>
<thead>
<tr>
<th>Indicator</th>
<th>South and West Asia</th>
<th>Central Asia</th>
<th>East Asia and the Pacific</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal 1</strong></td>
<td>Pre-primary gross enrolment ratio (%)</td>
<td>22</td>
<td>50</td>
<td>19</td>
</tr>
<tr>
<td><strong>Goal 2</strong></td>
<td>Primary adjusted net enrolment ratio (%)</td>
<td>77</td>
<td>93</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td>Out-of-school children (million)</td>
<td>40.1</td>
<td>12.4</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Goal 3</strong></td>
<td>Lower secondary gross enrolment ratio (%)</td>
<td>61</td>
<td>76</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Out-of-school adolescents (million)</td>
<td>39.6</td>
<td>31.3</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Goal 4</strong></td>
<td>Adult literacy rate* (%)</td>
<td>47</td>
<td>63</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>Youth literacy rate* (%)</td>
<td>60</td>
<td>81</td>
<td>100</td>
</tr>
<tr>
<td><strong>Goal 5</strong></td>
<td>Primary education gender parity index</td>
<td>0.83</td>
<td>0.98</td>
<td>0.99</td>
</tr>
<tr>
<td></td>
<td>Secondary education gender parity index</td>
<td>0.75</td>
<td>0.92</td>
<td>1</td>
</tr>
<tr>
<td><strong>Goal 6</strong></td>
<td>Primary education pupil-teacher ratio</td>
<td>36</td>
<td>N/A</td>
<td>21</td>
</tr>
</tbody>
</table>

*Progress on literacy is reported for the periods 1985/94 (left columns) and 2005/11 (right columns).

Goal 1 - ECCE

Pre-primary GER for selected countries, 2011

- Progress continues steadily since 2000 in the region but in 2011 universal participation in pre-primary education remains a distant goal for many countries in the region.
- E-Asia and the Pacific and S-West Asia have the most rapid improvement in access to pre-primary education in the world since 2005, with increases in enrolment of 19 and 14 percentage points respectively.
- Many countries have not developed sustainable ECCE Programs yet, even and/or initiatives but at least they recognize the importance of ECCE.

Source: UIS database February 2014
**Goal 2 - UPE**

**ANER by region, 2000-2011**

- Asia-Pacific is on track to achieve the goal (unless dramatic change). All of the sub-regions have reached an Adjusted Net Enrolment Rate (ANER) over 90%.
- 10 countries have already achieved universal participation (99% or more) in primary education and 9 countries are very likely to achieve the goal by 2015 (97% and 98% in 2011).
- Many children are still out of school. A ANER of 100% is necessary in order to achieve the goal. Now Asia-Pacific share of the out of school global number is 30%.
- The regional focus has shifted from ‘access’ to the second facet of the goal: Ensuring that children complete their education.

**Source:** UIS database February 2014
Goal 3 - Youth and Adult Skills

GER in secondary education, 2000, 2005 and 2011

E-Asia and the Pacific GER rose from 63% to 80% and S-West Asia rose from 46% to 60% between 2000 and 2011

The ratio has jumped more than double between 2000 and 2011

The ratio has increased significantly

Note: The number of Community Learning Center (CLCs) which has been developed to provide life skills and livelihood skills for youth and adults outside formal education have been increasing rapidly.

Source: UIS database February 2014
Goal 4 - Adult Literacy

Distribution of adult illiterate by region, 2011

- Out of 497 million illiterate adults in the A-P region in 2011 (64.2% of the global numbers), 82% illiterate adults live in S-W Asia, and 18% live in East Asia and the Pacific. Central Asia has achieved the goal already.
- Even though the literacy rates rose by 4 percentage points in S-W Asia, the absolute number of illiterates is increasing.
- The most disadvantage group is women: Gender represents a significant barriers to literacy with 0.70 as GPI for adult literacy in S-W Asia.

Source: UIS database February 2014
Goal 5 – Gender equality

The region is able to reduce the gender disparity in education participation in both primary and secondary level. E Asia and Pacific region increased GPI from 0.99 for the primary ANER and from 0.95 for the GER for the secondary education in 2000 to 1.00 and 1.03 in 2011. South and West Asia did not reach gender parity at the secondary level.

Where Gender Equality has not yet been attained, gender disparities in primary and secondary education have been reduced.

The social inequalities within the classroom should be addressed as the next step: eliminating gender disparities in teaching and leadership position.

Source: UIS database February 2014
Goal 6 – Quality Education

- Although the enrolment and participation, gender parity and literacy rate are steadily progressing, there is a big concern about the quality of learning at different levels of education.
- Simply obtaining a suitable number of teachers by 2015 remains a big concern in some countries.
- The change in proportion of trained teachers from 2000 to 2011 has been modest. Most of the countries in S-W Asia still have problems about the number of untrained teachers.
- Essential life skills, especially new and emerging skills, are not firmly established in formal education systems.

Source: UIS database February 2014
An Indicator for Quality Education: Teachers in AP
Total number of years of schooling required for entry to teacher training in select countries of Asia-Pacific

Source: UNESCO (2014), Education Systems in ASEAN+6 Countries

Teacher rewards and incentives in Southeast Asia

<table>
<thead>
<tr>
<th>Rewards/Incentives</th>
<th>Salary Increase</th>
<th>Certificate of Recognition</th>
<th>Scholarships/Training</th>
<th>Promotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunei Darussalam</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Myanmar</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Philippines</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Singapore</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Thailand</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Source: UNESCO (2014), Education Systems in ASEAN+6 Countries
Primary Teacher to Student Ratio

Source: UIS Database (2011)
Percentage of trained teachers by level of education

Source: UIS database (2011)
Varied Duration for Training

Years of pre-service teaching training required by level of education taught, 2001-2010

Note: * China's pre-service training requirement for primary is three to four years, while Lao PDR for upper secondary is four to five years. The minimum requirements for each country are used in the figure.

Perceived Pressure from Workload for National Assessments

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## Teacher Salary

<table>
<thead>
<tr>
<th>Country</th>
<th>Annual Base Teacher Salary</th>
<th>GDP per capita (2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kyrgystan[1]</td>
<td>USD360</td>
<td>USD2,273</td>
</tr>
<tr>
<td>Tajikistan[1]</td>
<td>USD240</td>
<td>USD2,163</td>
</tr>
<tr>
<td>Uzbekistan[1]</td>
<td>USD1,848</td>
<td>USD2,887</td>
</tr>
<tr>
<td>Kazakhstan  [2]</td>
<td>USD4,380</td>
<td>USD12,174</td>
</tr>
<tr>
<td>Mongolia [3]</td>
<td>USD4,250</td>
<td>USD4,036</td>
</tr>
</tbody>
</table>

Source [1]: Teachers: A Regional Study on Recruitment, Development and Salaries of Teachers in the CEECIS Region. UNICEF (2011)
[2]: “Pilots and oil workers are the most well-paid in Kazakhstan” Tengri News. (2012)
Empowering Teachers with Technologies

Some promising practices and cases from AP that contribute to empowering teachers
Factors for Successful ICT in Edu Integration

- Comprehensive policy guidance to harness ICT to achieve the national educational goals
- Continuous teachers professional development and support
- Use of ICT to manage educational information
- Rigorous M&E that can inform teachers and policy makers of data-proven promising practices
Policy guidance

A comprehensive ICT in Education master plan is needed.

Why does ICT in Education Policy go nowhere?
• Policy is a wish list without implementation strategies and resource plans.
• The policy focuses only on ICT hardware.
• Teachers and other ground level implementers resist policy-based changes.
• The policy does not have explicit connections with instructional practices at schools.
• The policy is organizationally isolated.
• The policy does not specify measurable goals.
• Current policies are replaced by the new government.

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ICT in Edu Master Plans in AP

- Central and South West Asia: 1 (No or No Material Available), 4 (Mentions of ICT in National Educational/ICT Master Plan [No Standalone Plan]), 3 (Standalone Sector-Wide ICT in Education Plan)
- East Asia: 1 (No or No Material Available), 4 (Standalone Sector-Wide ICT in Education Plan)
- South-East Asia: 8 (Standalone Sector-Wide ICT in Education Plan)
- Pacific Island Countries: 9 (Standalone Sector-Wide ICT in Education Plan), 5 (Mentions of ICT in National Educational/ICT Master Plan [No Standalone Plan])
- South Asia: 4 (Standalone Sector-Wide ICT in Education Plan), 2 (Standalone Sector-Wide ICT in Education Plan)
**Sector-wide Master Plans** have been proven effective in articulating a vision, mobilizing and managing funds, managing and monitoring projects.

<table>
<thead>
<tr>
<th>Standalone Sector-Wide ICT in Education Plan</th>
<th>Mentions of ICT in National Educational/ICT Master Plan (No Standalone Plan)</th>
<th>No or No Material Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mongolia</td>
<td>Kyrgyzstan Tajikistan Uzbekistan</td>
<td>Kazakhstan Turkmenistan</td>
</tr>
</tbody>
</table>

Source: World Bank, SABER: The Use of ICTS, Master list of ICT/Educational Policy Documents (Draft version 0.6, updated 30 January 2013).
Republic of Korea: Progress of ICT in Education

1970
- Standardization & distribution of educational PCs (16 bit) (1989)
- School Computer Education Master Plan (1987)
- Installation of the first educational computer (1971)

1996
- Completion of educational ICT infrastructure
- Guidelines for ICT in Education in primary & secondary schools (2000)
- RISS (1998)
- EDUNET (1996)

2001
- Development & distribution of content
- Improving teaching methods
- e-Learning Global Cooperation Center (2006)
- ICT in Education Master Plan I (1996)
- NEIS (2002)

2006
- Ubiquitous society
- Ubiquitous learning
- Operation of Digital Textbook Model Schools (20, 2008)
- Digital Textbook Development Plan (2007)
- U-classroom (2007)

2010
- Customized learning
- SMART Education Strategy (2011)

- Kindergarten Information Disclosure Public Service (2012)
Singapore: The ICT Master Plan Journey

1997 Master Plan 1
- Building the Foundation
  - T&L Resources
  - ICT Skills for Teachers
  - ICT Infrastructure

2003 Master Plan 2
- Seeding Innovation
  - Innovation push: FS & Lead ICT schools
  - ICT Baseline tools
  - School-based ICT Plan

2009 Master Plan 3
- Strengthening & Scaling
  - Enriching and transforming the learning experiences through appropriate ICT integration
  - Professional development of teachers
  - Developing discerning and responsible ICT users

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## Vietnam ICT in Education Policies

<table>
<thead>
<tr>
<th>Plan/Directive</th>
<th>Key Initiatives</th>
</tr>
</thead>
</table>
| **ICT in Education Plan (2001-2005)** | • Increased familiarity with and training in ICT for students  
• Improving ICT use by teachers |
| **Directive 55 (2008)** | • Launch of SY 2008/2009 as the “Year of ICT”  
• Establishment of the Education Network  
• Enhancement of training and application of ICT in education  
• Conducting academic reviews of ICT policy and penetration |
| **Comprehensive and Fundamental Reform of Higher Education (2006-2020)** | • Expansion of ICT training in colleges and universities  
• Development of a new curriculum for all levels of education, which both utilizes ICT and teaches about ICT |
| **National Strategic Plan on ICT Application & Teachers Professional Development (v2012)** | • Increased investment on equipment for schools  
• Teacher Professional Development Strategy including trainings, assessment, contests and incentives |

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Infrastructure – Internet Access

Proportion of schools with basic electrical and telecommunications infrastructure by level of education, 2012

Source: From Figure 2 of the Information and Communication Technology (ICT) in Education in Asia: A comparative analysis of ICT integration and e-readiness in schools across Asia, UIS, April, 2014.

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Proportion of educational institutions with internet, fixed broadband and internet-assisted instruction by level of education, 2012

Source: From Figure 6 of the Information and Communication Technology (ICT) in Education in Asia: A comparative analysis of ICT integration and e-readiness in schools across Asia, UIS, April, 2014.
Mobile & Internet in Central Asia

Note: CIS includes: Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Uzbekistan, Azerbaijan, Georgia, Moldova, Ukraine, Armenia, Turkmenistan


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Teacher Development

A survey result from UNESCO Asia Pacific Ministerial Forum on ICT in Edu, November 2013, China

In what areas is support needed? (Percentage of Respondents)

- Capacity building for teachers: 80%
- Financial aid: 53%
- Technical assistance in research and benchmarking: 53%
- Capacity building for officials and administrators: 40%
- Specialized agency for ICT in Education: 33%
- Policy consultation: 27%

Source: AMFIE 2014 Outcome Document

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Issues in Teacher Training Providers

Pre-service Training Provider (N=16)

- National TTC, NIE: 5
- University (TEI): 11

In-service Training Provider (N=16)

- Local Gov + NGO: 1
- Local Gov: 5
- Local Gov + Priv: 7
- NA: 2
- NGO: 1

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Teacher Career Ladder: Australia

Initial Teacher Education

- undergraduate programs (4 years)
- graduate entry program (12, 18 or 24 months)
- intensive programs with employer support

Graduation

Teacher Registration

Career Stages
- Graduate
- Proficient
- Highly Accomplished
- Lead

• A global research program that investigates how schools and systems can encourage **innovative teaching practices** and the **impact** innovative teaching practices have **on students’ learning**. (Scope: 45 schools)

• Conducted by SRI International

Key Findings: ITL Research 2011

• Innovative teaching practices are more likely to flourish when particular supportive conditions are in place:
  ✓ Collaboration and peer support
  ✓ Active engagement of educators, particularly in practicing and researching new teaching methods
  ✓ A school culture that offers a common vision of innovation
• Basic infrastructure is needed to support ICT-enhanced educational information management system (EMIS).

• A poorly designed EMIS may do harm than good to teachers. (by asking them to enter the same data to different platforms)
EMIS and LMS

- As a solution to reduce teachers’ administrative and management workload

Case of Korea: NEIS

Concept of NEIS Service

General Affairs

Staffs
(MPOEs, LOEs)

Statistics

Academic Affairs

Teacher/Non-teaching staff
(Schools)

Parents/Citizen

G4C Service(Home-Edu)

16 Metropolitan • Provincial
Offices of Education

NEIS MEST

G4C Service

Academic Affairs

Statistics

Code/Index

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UNESCO’s Work
• Since 2012, three regional high-level expert meetings, a EFA coordinator meeting and a regional thematic consultation on education post-2015 facilitated by UNESCO Bangkok

• Other regional, sub-regional, and national consultations on specific themes focusing on the post-2015, such as ESD and ECCE, organized

• National EFA Reviews currently underway

• Preparation for the organization of the Asia-Pacific Regional Education Conference (APREC, 6-8 August 2014, Bangkok, Thailand), organized by UNESCO Bangkok in co-operation with Thai Ministry of Education
Post EFA

Asia-Pacific Regional Education Conference
*Bangkok, Thailand*

World Education Forum
*Incheon, Republic of Korea*

UN Summit and Adoption of Post-2015 Sustainable Development Goals
*New York, USA*

By early 2015

6-8 August 2014

19-22 May 2015

September 2015

Education Conferences in other regions

Gwang-Jo KIM, Central Asia Symposium on ICT in Education 2014, Tashkent, Uzbekistan
17th UNESCO-APEID International Conference

**The Powerhouses of Education: Teachers for the Future We Want**

29-31 October 2014, Bangkok, Thailand

- Are the demands placed on teachers realistic and appropriate?
- What should be the priorities of teachers as custodians of learning?
- What kinds of education and training are needed to develop teachers as the powerhouses of education for the future we want?
- What policies are needed to ensure that teachers can perform and contribute to the education goals?

For more information, contact apeidconf@unesco.org
Trained 484 teachers and teacher educators on effective ICT-Pedagogy Integration and/or Project-Based Learning and Telecollaboration.
• Supporting countries to develop national strategies for “Competency-Based Teacher Training Reforms to Facilitate Effective ICT-Pedagogy Integration” (2013-2017)
The Network on Education Quality Monitoring in the Asia-Pacific (NEQMAP)

- Strengthens education systems to improve the quality of education in Asia-Pacific
- Provides a forum for exchanging of expertise, experiences and lessons to improve the quality of learning in education systems of countries in Asia-Pacific
- Uses knowledge and lessons learned to influence policy reforms
OpenEMIS

Partnership between UNESCO and Community Systems Foundation

http://openemis.org/
Ways Forward
Ways forward

• Policy planning and coordination
• Investment in information/data (EMIS)
• Centrality of teacher policy
• Strategic approaches to infrastructure
Thank you