Pre-Symposium National Survey Findings

Miron Bhowmik, Jonghwi Park
(ICT in Education, UNESCO Bangkok)

Central Asia Symposium on ICT in Education (CASIE)
27 June 2016
Outline

• Background
• Preliminary findings
  • Current status and challenges in TVET
  • ICT in TVET
• Next steps
Background

Objectives

Methodology and data
Objectives

To build a better understanding of:

1) Current status and challenges in TVET in Central Asian countries; and
2) How ICT can enhance skills development across the region.
Methodology

• Duration: May-June 2016
• Participating countries: Kazakhstan (KZ), Kyrgyzstan (KG), Mongolia (MN) and Tajikistan (TJ)
• Respondents: One of the delegates from each country
• Data: A 28-question questionnaire both in English and Russian
Preliminary findings

Current status and challenges in TVET

ICT in TVET
Policy environment

• All four countries equipped with a national TVET development plan or education sector development plan that has a TVET part
• All includes all levels of education in their national qualification frameworks.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countries with TVET policy that includes ICT-related sections</td>
<td>KZ, MN, TJ</td>
</tr>
<tr>
<td>Countries with national education policy that includes ICT</td>
<td>KZ, KG, MN</td>
</tr>
<tr>
<td>Countries with ICT in Education Master Plan</td>
<td>TJ</td>
</tr>
</tbody>
</table>
TVET System

- All four countries provide TVET through mainly public institutions

<table>
<thead>
<tr>
<th>Country</th>
<th>Levels of TVET courses delivered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazakhstan</td>
<td>Certificate, Secondary, post-secondary, Bachelor Certificate; Secondary; Vocational (diploma); Post-secondary</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>Certificate; Secondary; Vocational (diploma); Post-secondary</td>
</tr>
<tr>
<td>Mongolia</td>
<td>Certificate; Diploma</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>Primary education; Secondary; Post-secondary</td>
</tr>
</tbody>
</table>
TVET as a share of secondary enrolment

- Higher than the world average

Source: UNESCO (2015a)
TVET finance

- Wide range of budget allocation for TVET across the region

<table>
<thead>
<tr>
<th>Country</th>
<th>% of TVET in education budget 2015</th>
<th>% of TVET in education budget 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazakhstan*</td>
<td>4.36 (2013)</td>
<td>4.36</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>6.9</td>
<td>6.7</td>
</tr>
<tr>
<td>Mongolia</td>
<td>0.31</td>
<td>0.35</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>m</td>
<td>m</td>
</tr>
</tbody>
</table>

m: missing data *(UNESCO-UIS, 2016)*
**Teachers in TVET**

- National competency standards for TVET teachers needed (available only MN)

<table>
<thead>
<tr>
<th>Country</th>
<th>TVET teachers' qualification (Minimum)</th>
<th>ICT related training and skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazakhstan</td>
<td>Bachelor’s degree</td>
<td>data not reported</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>Diploma level TVET graduate (Bachelor’s degree; Master’s degree)</td>
<td>None</td>
</tr>
<tr>
<td>Mongolia</td>
<td>Diploma level TVET graduate</td>
<td>• Basic ICT courses in pre and in-service</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ICT competency standards for TVET teachers</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>Secondary vocational education (Bachelor's degree)</td>
<td>• Basic ICT courses in pre and in-service</td>
</tr>
</tbody>
</table>
Engaging employers in TVET

• All countries engage employers in:
  • Qualification process
  • Curriculum design
  • Assessment & certification
  • Work placement

• Less in policy development
  • Promising case: In Mongolia, National Council for VET (NCVET) is the highest authority, where 18 members with 9 Government representatives and 9 Employers representatives.
• High employability rates of TVET graduates in KZ, KG and MN

Source: (UNESCAP, 2016)
Main challenges (top 4)

• Low financial investment in TVET
• Low level of engagement and partnership with employers.
• TVET courses and programmes that are mismatched with the current and future skills needs of the job market.
• Outdated and lack of practical oriented instruction/pedagogy at TVET institutes.
Preliminary findings

Current states and challenges in TVET

ICT in TVET
ICT infrastructure in TVET institutions

• Surveyed on electricity, internet access, computer labs, projectors, workshops with technology, LAN, school website

• Kazakhstan and Mongolia scored the highest in all areas.

• Most countries invest ICT infrastructure more on post-sec TVET than on secondary TVET

<table>
<thead>
<tr>
<th>Countries</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazakhstan and Mongolia</td>
<td>ICT well equipped in all or most TVET institutions</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>Stable electricity and internet access in most TVET institutions Need ICT-equipped workshops</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>Need more investment on ICT for secondary TVET (electricity, internet, computer labs, ICT-equipped workshops)</td>
</tr>
</tbody>
</table>
ICT to enhance access to TVET

- Kazakhstan, Kyrgyzstan and Mongolia provide offline open and distance learning through:
  - printed material and assignment mailed to students
  - audio/video cassettes
  - radio/television broadcasting
- Kazakhstan also provides online based ODeL; MOOCs; Blended learning (face to face + online learning)
- Kyrgyzstan stresses expanding access to TVET for remote areas and disadvantaged groups in *National Sustainable Development Strategy* and *Education Development Strategy*
ICT to improve quality of TVET teaching and learning

• ICT in TVET curriculum
  • Mainly for ICT literacy development as separate course(s)/subject(s) (Kz, Kg, Tj)
  • Applying ICT within discrete subjects (Kz, Kg, Tj)
  • Using ICT to develop 21st century skills (collaboration, communication, creative and critical thinking, etc.) (Kz, Mn, Tj)

• Kazakhstan Gov’t’s provision of digital education resources and related technology
  • Interactive e-handbook (with feedback and assessment module)
  • Learning management system (LMS) (deals with online quizzes, e-portfolios etc.); HTML 5, Flash

• Mongolia Gov’t’s provision of digital education resources and related technology
  • Interactive e-handbook (with feedback and assessment module)
  • Content repositories
  • Lab simulation
**ICTs to strengthen data-informed TVET policy development**

- Need better data management systems that guide matching what is needed in workplace and what is taught in TVET

<table>
<thead>
<tr>
<th></th>
<th>KZ</th>
<th>KG</th>
<th>MN</th>
<th>TJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMIS</td>
<td>√</td>
<td>x</td>
<td>√</td>
<td>*</td>
</tr>
<tr>
<td>system in place to identify skill gaps</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>*</td>
</tr>
<tr>
<td>system in place to predict future jobs</td>
<td>√</td>
<td>x</td>
<td>√</td>
<td>*</td>
</tr>
<tr>
<td>Central EMIS: TVET related data</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>*</td>
</tr>
<tr>
<td>tracer studies, employer satisfaction survey</td>
<td>x</td>
<td>√</td>
<td>√</td>
<td>*</td>
</tr>
<tr>
<td>mechanisms in place to use labor market and TVET-related data and study findings for further policy development in TVET</td>
<td>√</td>
<td>x</td>
<td>√</td>
<td>*</td>
</tr>
</tbody>
</table>

* data not reported
## Major barriers to integrating ICT in TVET

- **Infrastructure, support and services; contents; teachers’ skills and attitudes**

<table>
<thead>
<tr>
<th></th>
<th>KZ</th>
<th>KG</th>
<th>MN</th>
<th>TJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient computing devices</td>
<td>√</td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Inadequate IT infrastructure</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inadequate technical support and services</td>
<td></td>
<td></td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Teachers’ lack of ICT competencies</td>
<td></td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Lack of relevant and well-designed digital content suitable for TVET</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Teachers’ reluctance to change their roles and instruction styles</td>
<td></td>
<td></td>
<td></td>
<td>√</td>
</tr>
</tbody>
</table>
Summary and next steps
Summary: Key findings

• TVET development is progressing in the region (NQF, QA, employers engagement)

• Yet, more works need to be done to provide equitable opportunities for lifelong skills development for the changing world of work

• More attention should be given to TVET teachers capacity
  • TVET teacher competency framework (content and pedagogy)
  • ICT skills for TVET teachers
  • ICT competency standard for TVET teachers

• ICT can facilitate labour market data collection and analysis to feed and guide what needs to be taught in TVET institutions
Study: ICT-supported TVET in Central Asia

- UNESCO Bangkok and UNESCO IITE
- Further data collections
  - During CASIE
    - Focus Group Discussion
    - Key Informants Interviews
    - To be conducted on Day 3 as a follow-up and for in-depth data
  - After CASIE
    - Surveys and interviews at policy and institutional level
- Report to be published at the end of 2016
Thank you

Q/A

mk.bhowmik@unesco.org
j.park@unesco.org
References


