Task force 4.4: Progress report

Manos Antoninisis

GAML5
October 2018
Hamburg, Germany
**Target 4.4:** By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

**(Global) Indicator 4.4.1:** Percentage of youth and adults with information and communications technology *(ICT)* skills by type of skill

- **Not a learning outcome indicator:** indirect (but correlated with measures of skills)

**(Thematic) Indicator 4.4.2:** Percentage of youth and adults who have achieved at least a minimum level of proficiency in *digital literacy skills*

- **Learning outcome indicator:** direct = focus of task force
FIGURE 12.3: Not all types of indirectly assessed ICT skills accurately predict the population’s directly assessed problem-solving proficiency in technology-rich environments. Correlation between two indirectly assessed ICT skills and two directly assessed proficiency levels of problem-solving skills in technology-rich environments, selected countries, 2011-2015.
<table>
<thead>
<tr>
<th>Questions towards global reporting</th>
<th>TF activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard expected GAML outputs</strong></td>
<td>2017/18</td>
</tr>
<tr>
<td><strong>Relevance:</strong> what is being assessed?</td>
<td></td>
</tr>
<tr>
<td>e.g. competence and assessment frameworks</td>
<td></td>
</tr>
<tr>
<td><strong>What is the least common denominator?</strong></td>
<td></td>
</tr>
<tr>
<td>► <strong>Global content framework</strong></td>
<td>X</td>
</tr>
<tr>
<td><strong>Has a learning assessment taken place?</strong></td>
<td></td>
</tr>
<tr>
<td>► <strong>Catalogue of learning assessments</strong></td>
<td>X</td>
</tr>
<tr>
<td><strong>Implementation:</strong> who is being assessed and how?</td>
<td></td>
</tr>
<tr>
<td>e.g. sample/coverage, modality</td>
<td></td>
</tr>
<tr>
<td>Are the assessments technically robust?</td>
<td></td>
</tr>
<tr>
<td>► <strong>Evaluation of data quality</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Interpretation:</strong> what do results mean?</td>
<td></td>
</tr>
<tr>
<td>e.g. reporting scale, performance levels, benchmarks</td>
<td></td>
</tr>
<tr>
<td>How does learning improve?</td>
<td></td>
</tr>
<tr>
<td>► <strong>Learning progression</strong></td>
<td></td>
</tr>
<tr>
<td>A score that is attached to each learning level</td>
<td></td>
</tr>
<tr>
<td>► <strong>Reporting scale</strong></td>
<td></td>
</tr>
<tr>
<td>What level should learners achieve on that scale?</td>
<td></td>
</tr>
<tr>
<td>► <strong>Minimum proficiency level</strong></td>
<td></td>
</tr>
</tbody>
</table>
Commission 1: Hong Kong University Centre for Information Technology in Education Law et al. (2018)
Would EU’s DigComp fit as global framework?

Process
a. Review of 43 digital literacy frameworks; focus on:
   ▶ 7 national frameworks with clear competencies
   ▶ 3 popular enterprise frameworks
b. Consultation (a) with experts and (b) online

Key recommendations
Add two competence areas
0. Hardware and software operations
1. Information and data literacy
2. Communication and collaboration
3. Digital content creation
4. Safety
5. Problem solving
6. Career-related competences
   - use examples of digital literacy in major economic sectors
Digital literacy global framework (2)

Example: Pathways mapping for agriculture

<table>
<thead>
<tr>
<th>Trading using mobile phone</th>
<th>Using smartphone to cut out middlemen</th>
<th>A data-driven irrigation system using Internet-of-things</th>
</tr>
</thead>
</table>
Commission 2: Mart Laanpere (ongoing)

- Map digital literacy assessment to DLGF
- Evaluate assessments that cover large part of DLGF: cost-effectiveness for rollout at scale
- Recommend next steps on assessment tool suitable for indicator 4.4.2

Process

a. Review of prior mapping exercises:
   - Carretero et al (2017) (22 assessments)
   - Siddiq et al. (2016) (30 school-based assessments)

b. Analysis (adding 13 assessments)

Different classifications of assessments

- By purpose: research, credentials, statistics
- By focus: technical skills (e.g. ICDL), information literacy (e.g. ICILS), digital competence (e.g. PIAAC)
- Delivery: self-report, self-assess on scale, test; if so by item: multiple choice, interactive, authentic

Common dilemmas

- Psychometrics and external vs internal validity
- Cost (ongoing)
Mapping of assessment tools (2)

Identified good practices

Self-reporting and knowledge

- **Estonia** DigComp school test grades 9/12, less reliable in competence areas 3-5
- **France** Pix: advanced platform and item design (incl. adaptive testing), does not cover competence 5
- **Only self-reporting**

- **Denmark** Digital Competence Wheel: most competence areas, attractive visual feedback

Draft recommendations

- **Self-report**, 3-5 point scale, 15-20 min, automatic assessment
- **Pilot** 1000+ in 3 languages, validate, steering group
- **Knowledge-based** test extension for selected competency areas to enhance validity
- **Software architecture** similar to Pix e.g. built-in data upload in anonymized form; software and test items in Github; responsive user interface; test runs on smartphones and tablets etc.
- **Extensions** for e-portfolios, microcredentials
Next steps

**Finalise mapping commission**
Invite identified good practices to comment and add their perspective of potential extension for statistical purposes
(see next presentation)

**Restart task force**
- Task force not active so far; understandable as:
  - prior steps were necessary to reach point where discussion is framed and global-national divide bridged
  - for many countries, ICT skills still very low
- GAML 5 an important opportunity to restart

**Reach consensus on suitable assessment**
- Recommendations narrow the options