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GLOBAL  
ALLIANCE  
TO MONITOR  
LEARNING



SUSTAINABLE  
DEVELOPMENT  
GOALS

# Task force 4.4: Progress report

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# A refresher on target 4.4

**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**

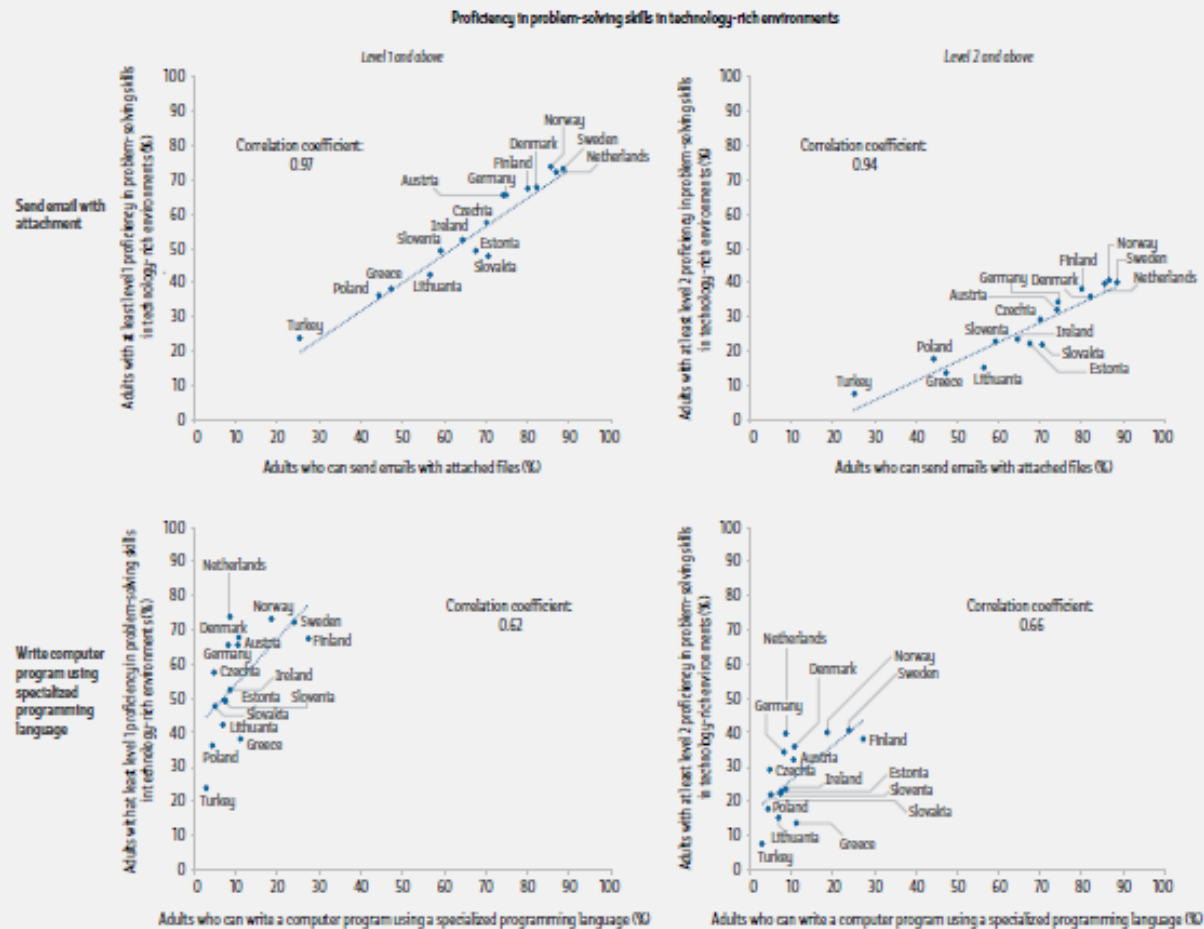
► **Learning outcome indicator:** direct  
= focus of task force

# Global-thematic indicator relationship

**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



Source: GEM Report team analysis using data from Eurostat and OECD PIAAC.

# Measurement strategy

Questions towards global reporting <b>Standard expected GAML outputs</b>	TF activities		
	2017/18	2018/19	2019/20
<b>Relevance:</b> what is being assessed? e.g. competence and assessment frameworks			
<b>What is the least common denominator?</b> ▶ <b>Global content framework</b>	X		
<b>Has a learning assessment taken place?</b> ▶ <b>Catalogue of learning assessments</b>	X		
How do different assessments map against the global content framework? ▶ <b>Evaluation of content alignment</b> ▶ <b>Content coding scheme</b>		X X	
<b>Implementation:</b> who is being assessed and how? e.g. sample/coverage, modality			
Are the assessments technically robust? ▶ <b>Evaluation of data quality</b>			X
<b>Interpretation:</b> what do results mean? e.g. reporting scale, performance levels, benchmarks			
How does learning improve? ▶ <b>Learning progression</b> A score that is attached to each learning level			X
▶ <b>Reporting scale</b> What level should learners achieve on that scale?			X
▶ <b>Minimum proficiency level</b>			X

## 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



## Example: Pathways mapping for agriculture



Trading using mobile phone

Using smartphone to cut out middlemen

A data-driven irrigation system using Internet-of-things

# Mapping of assessment tools (1)

## 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

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

# 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