Estonian Digital Education

education estonia

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Digital competence and digital training
Education and Youth Board of Estonia

Estonia

+ population: 1.3 million
+ 45,339 km2
+ EU, NATO member (2004)
+ 99% of public services online

Digital solutions are in everyday use

+ E-diaries for schools and kindergartens: Eliis, eKool, Stuudium
+ Digital learning materials and platforms: e-Schoolbag, OPIQ
+ Student admission systems: DreamApply, SAIS
+ Examination Infosystem EIS for digital tests
+ Estonian Education Infosystem EHIS
+ HarID user administration system

  etc

Top-down support

Education Strategy 2021-2035

GENERAL OBJECTIVE:

To equip the population of Estonia with the knowledge, skills and attitudes that prepare people to fulfil their potential in personal, occupational and social life and contribute to promoting the quality of life in Estonia as well as global sustainable development.

Estonian education strategy 2021-2035

Professional Standards for Teachers (renewed 2019-2020)

The Digital Competence Framework for Citizens (DigComp 2.1, 2017)

European Framework for the Digital Competence of Educators (DigCompEdu, 2017, 2022)

Digital Education Action Plan 2021-2027

True or false?

The digital competence
of students has developed significantly
during the distance learning period.

3rd grade class at Gustav Adolf Grammar School. Photo: Ingrid Maadvere

Students' digital framework

1. INFORMATION AND DATA LITERACY

2. COMMUNICATION AND COLLABORATION

3. DIGITAL CONTENT CREATION

4. DIGITAL SAFETY

5. PROBLEM SOLVING

In Estonia, the digital competence
is a general competence
throughout all the subjects
in national curricula

since 2014

Assessment criteria

Each competence area
has its own assessment criteria

+ Four key stages of general education:
  + kindergarten; grades 3; 6; 9/12

Criterias help teachers

+ to assess progress
+ to plan further learning for students

Digital competence in Estonia

different approaches

1

compulsory computer lessons and/or informatics classes

2

digital competence integrated into all subjects

3

digital competence is integrated into all subjects combined with separate lessons

Teachers' digital framework

1. PROFESSIONAL ENGAGEMENT

2. DIGITAL RESOURCES

3. TEACHING AND LEARNING

4. ASSESSMENT

5. EMPOWERING LEARNERS

6. FACILITATING LEARNERS' DIGITAL COMPETENCE

Self-assessment questionnaires

+ For teachers and students
+ Teachers and students can use criteria to set their own learning targets
+ In different formats
+ Selfie for Teachers

E-course for schools

30 h Moodle course

Topics:

+ Solving digital problems
+ E-government
+ My phone
+ Copyright and Open Content Licenses
+ Creating a poster
+ Information search
+ Hunt for lies
+ Social media
+ Research
+ Creating a presentation
+ Video

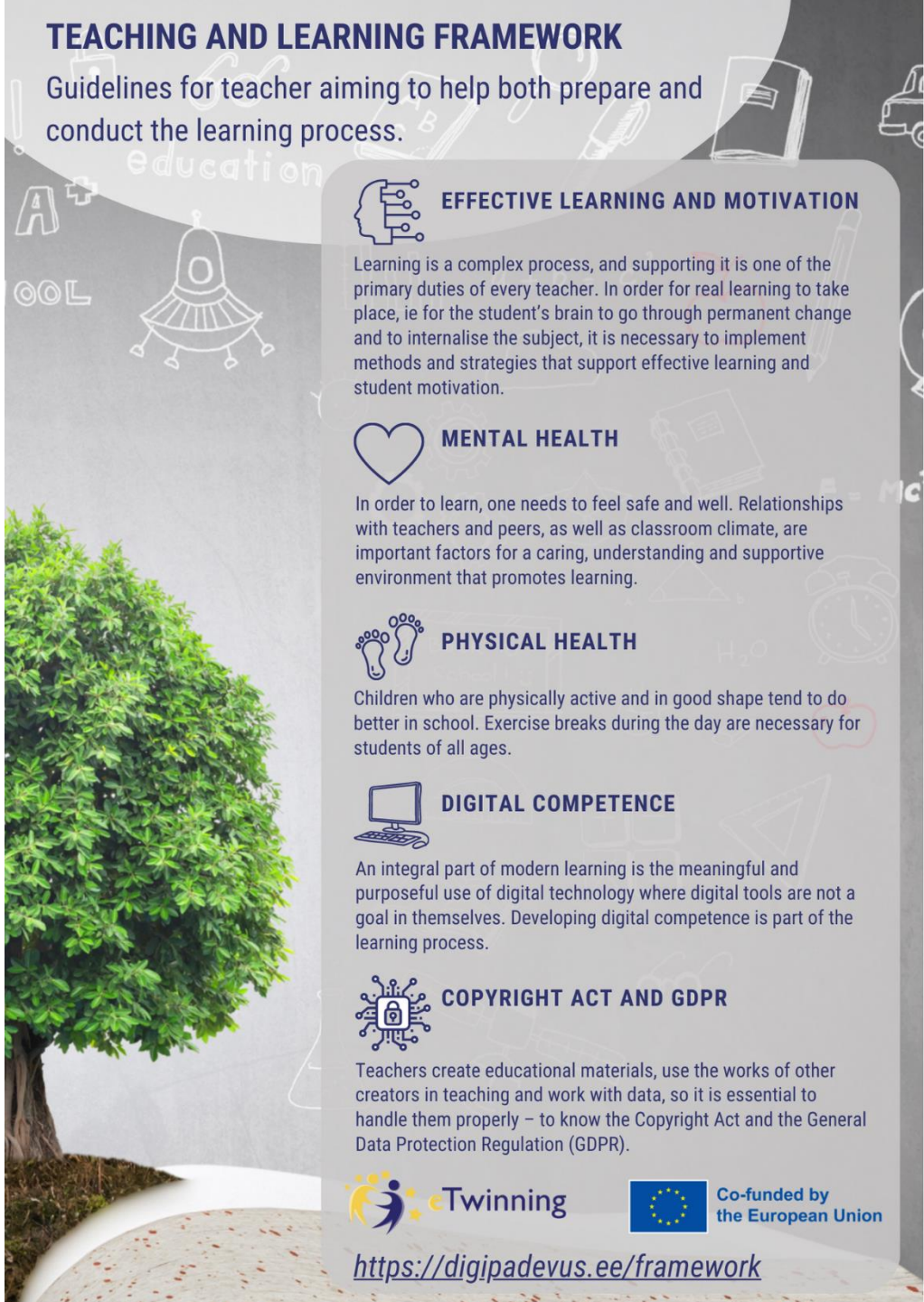
Open access and covers most
of the 9th grade assessment criteria

Teaching and learning framework

Guidelines for teachers aiming to help both prepare and conduct the learning process.

+ Effective learning and motivation
+ Mental health
+ Physical health
+ Digital competence
+ Copyright and GDPR

https://digipadevus.ee/framework



Key considerations for teachers

+ How is the digital competence of learners developed at my school?
+ What area of digital competence will I develop in my class?
+ Do I already formulate digital competence in the objectives of the lesson?
+ How do I give feedback or evaluate the achievement of digital competence?
+ What technical devices do I use in my class?
+ What computer programs and digital environments do I use in my class?

Distance learning experience

Estonian general education schools in the spring of 2020

Important success factors in schools where the organization of studies was better managed during the distance learning period

+ the level of digital competence of teachers
+ supporting students' learning skills
+ development of students' digital competence
+ differentiation of teaching
+ methodological materials
+ a pedagogically diverse learning process

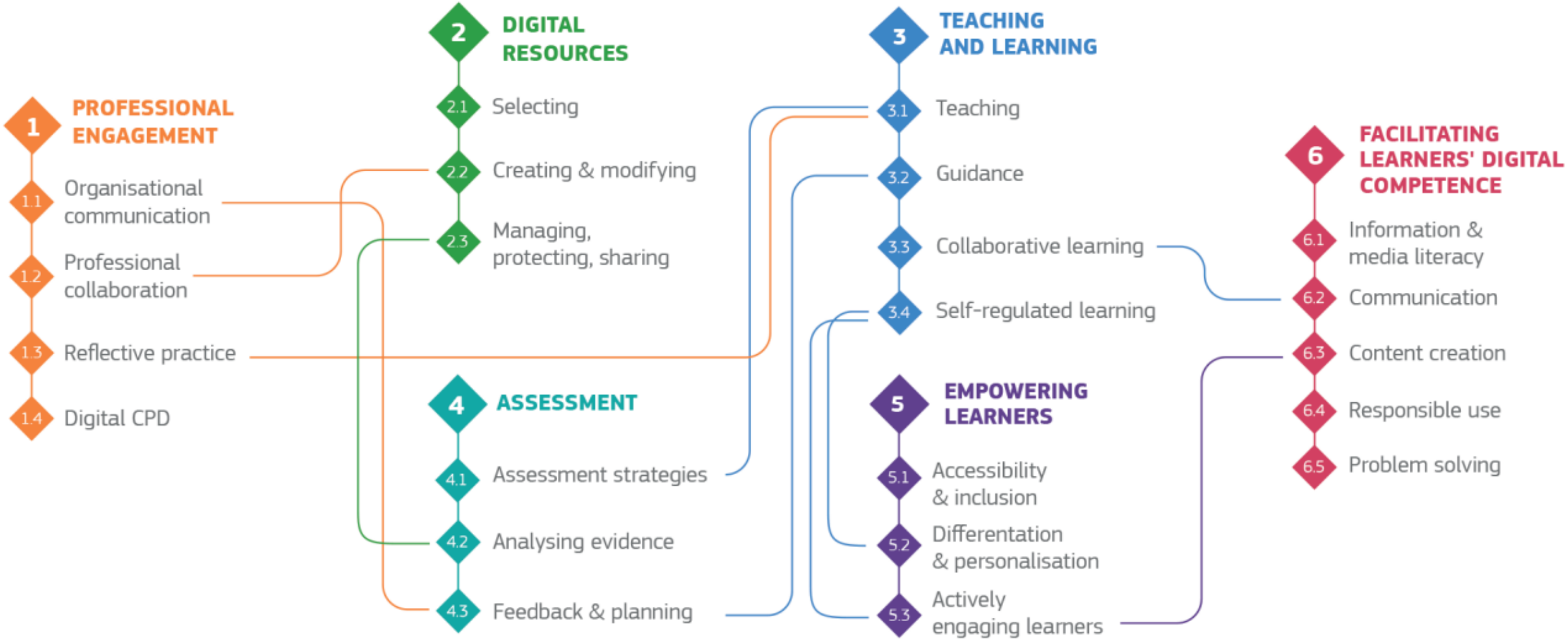
Source: Overview of the Ministry of Education and Research on the external evaluation of the education system 2020/2021

20%

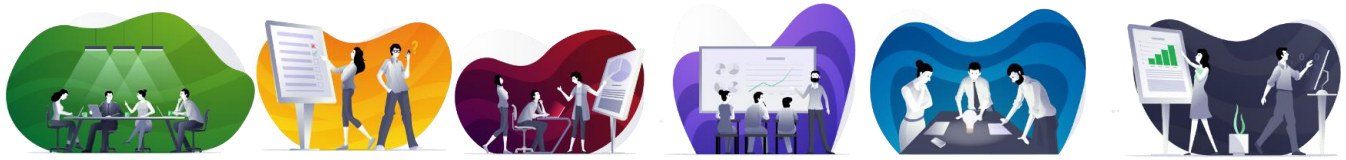
of general education teachers take part at Harno digital training every year

Competences

(DigCompEDU 2017)



Digital training for Estonian schools



0. non-user
1. beginner (knows basic terminology, needs support in implementation)
2. coper (copes with typical, simple tasks)
3. independent (handles variety of tasks without support)
4. expert (reflects, analyses and shares the advanced practices)
5. pioneer (leader, innovator, coach, mentor)

Digital competence areas and subtopics (DigCompEDU)	1. Professional engagement				2. Digital resources			3. Teaching and learning				4. Assessment			5. Empowering learners			6. Facilitating learners' digital competence				
Digital trainings	1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	6.4	6.5
beginners (school leaders)	3	3	3																			
beginners (school teams)	2-3	2-3	2-3	3	2-3	2-3	2-3	2-3	2-3	2	2-3	2-3	2	2-3	2-3	2-4	2-3	2	2-3	2-3	2-3	2
beginners (teachers)	2-3	2-3	2-3	2-3	2-3	3	2-3	2-3	2-3	2-3	3	3		3	3	3	2-3	2-3	3	2-3	2-3	
advanced (subject teachers)	3	3	3	3	3	3	3	3	3	3		3						3	3	3	3	3
advanced (school teams)		3	3	2-3	3		3	3					3					3			2-3	3
advanced (vocational teachers, school teams)	4	4			4-5	4-5	4-5	4	4	4-5	5	4-5	4	4-5	4	4	4	5	5	5	5	5
advanced (teachers)		2-3	3-4	2/4	2-4	2-4	2/4		4	2-3	4	3-4	3	2-4	3	2-4	2-3	2	2-4	2-3	2-4	2-4
educators and educational technologists		5	5	3/5	3/5	4-5	5	3/5	3	5							4					

Digital Accelerator

6 month programme for school teams

+ Digital training for teachers, 30 h
+ Leadership training, 39 h
+ Educational technology mentoring, 35-80 h
+ Digital practice assessment before and after the programme

Digital integration

31 h programme

+ **Focus:** integration between subjects
+ **Requirement:** cooperation of two school teams
+ **Result:** examples of best practice that can be used by all teachers

A safe school environment in the information society

39 h programme for school management

+ Digital safety, cybersecurity and hygiene, GDPR
+ Each team will put together a set of rules to ensure digital safety in school environment

Digital ABC & Digital Safety ABC

26 h train-the-trainer programme
for schools & kindergartens

+ Skills to support colleagues
+ Focus in 2021: distance learning
+ 40 different modules

Courses on digital tools

- Simple drawing tools, 26 h
- How to activate students in distance learning, 26 h
- Simple visualization tools for the teacher, 13 h
- Learning platforms:
  - Moodle, 31 h
  - Google Classroom, 26 h
  - MS Teams, 24 h

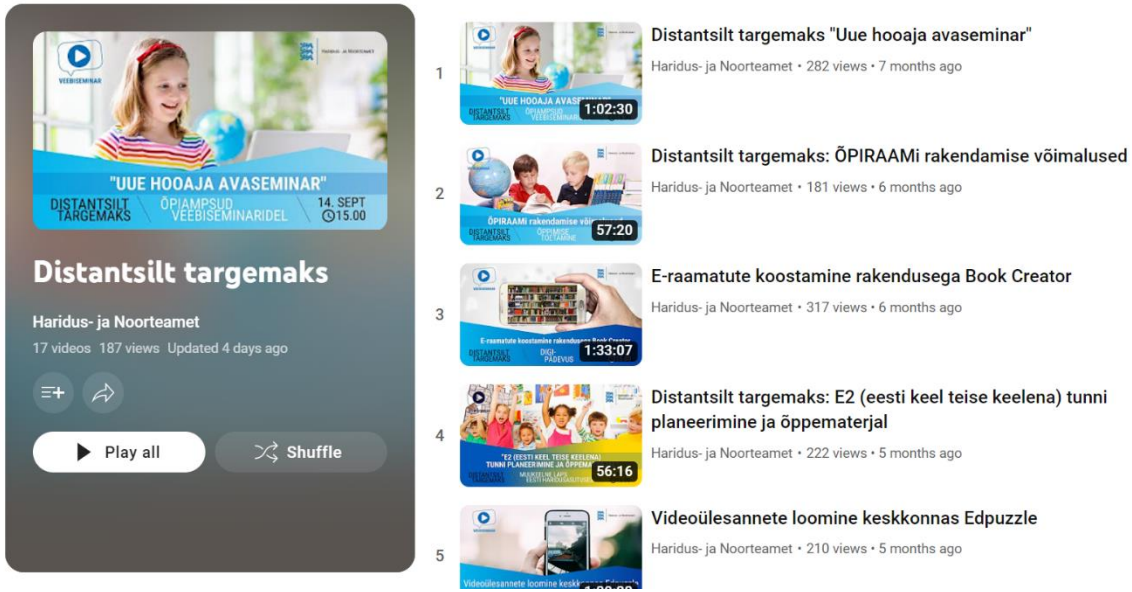
Webinars

Learning from distance

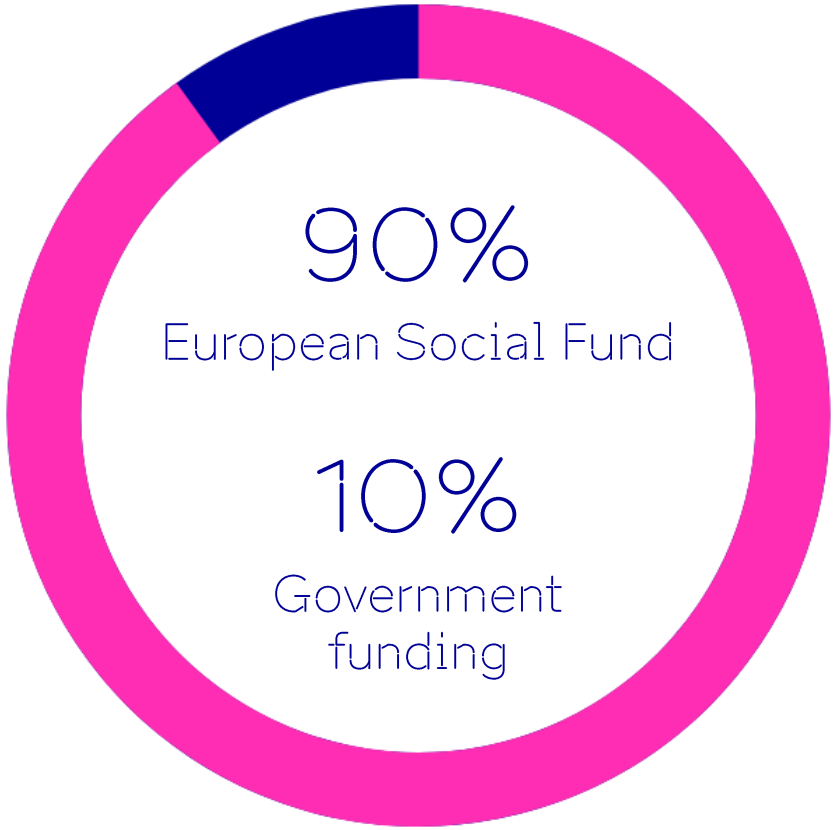
2021/2022:
39 webinars
5471 registrations
≈ 10 000 views

2022/2023:
12 webinars
1872 registrations
≈ 2145 views

+ At least 1 per week
+ 1-1,5 hours
+ Hot topics in education
+ Educational technology coaching
+ Recordings available in Youtube



How do we do digital training?



+ Staff: 3-4 project managers on digital training
+ **Educators:** up to 75 in-service teachers, educational technologists, school leaders, scientists etc
+ **Focus:** methodology
+ Open courses and custom training
+ **Flexibility:** online, face-to-face and combined format
+ **Dissemination:** newsletters, Facebook group, network

Support factors

Education technologists

Integrating innovative educational tools and digital resources in Estonian schools from 2007

ProgeTiger 2023-2023

99% kindergartens
98% schools

+ 3 M euros
  for technological equipment
+ 350 trainings for more than
  6,500 teachers and supervisors
+ Study materials for all levels of education
+ Student competitions with more than
  50,000 students

Renewing digital infrastructure

2016
2018

11.8M

euros

3281

desktop computers (all-in-one)

8889

laptops

480

multimedia computers

4200

padlets

686

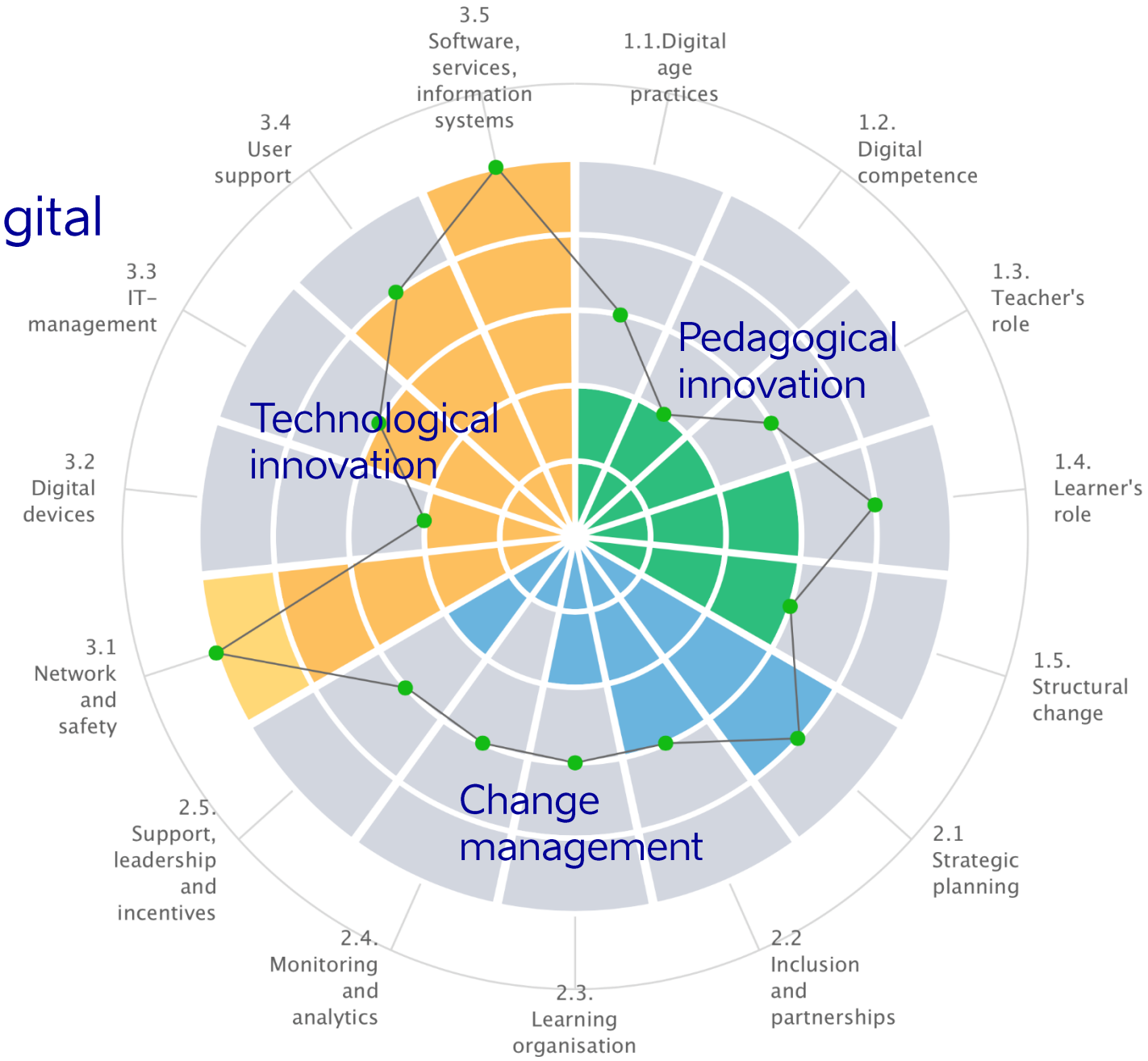
interactive projectors

Digital Mirror

Self-assessment of schools' digital maturity

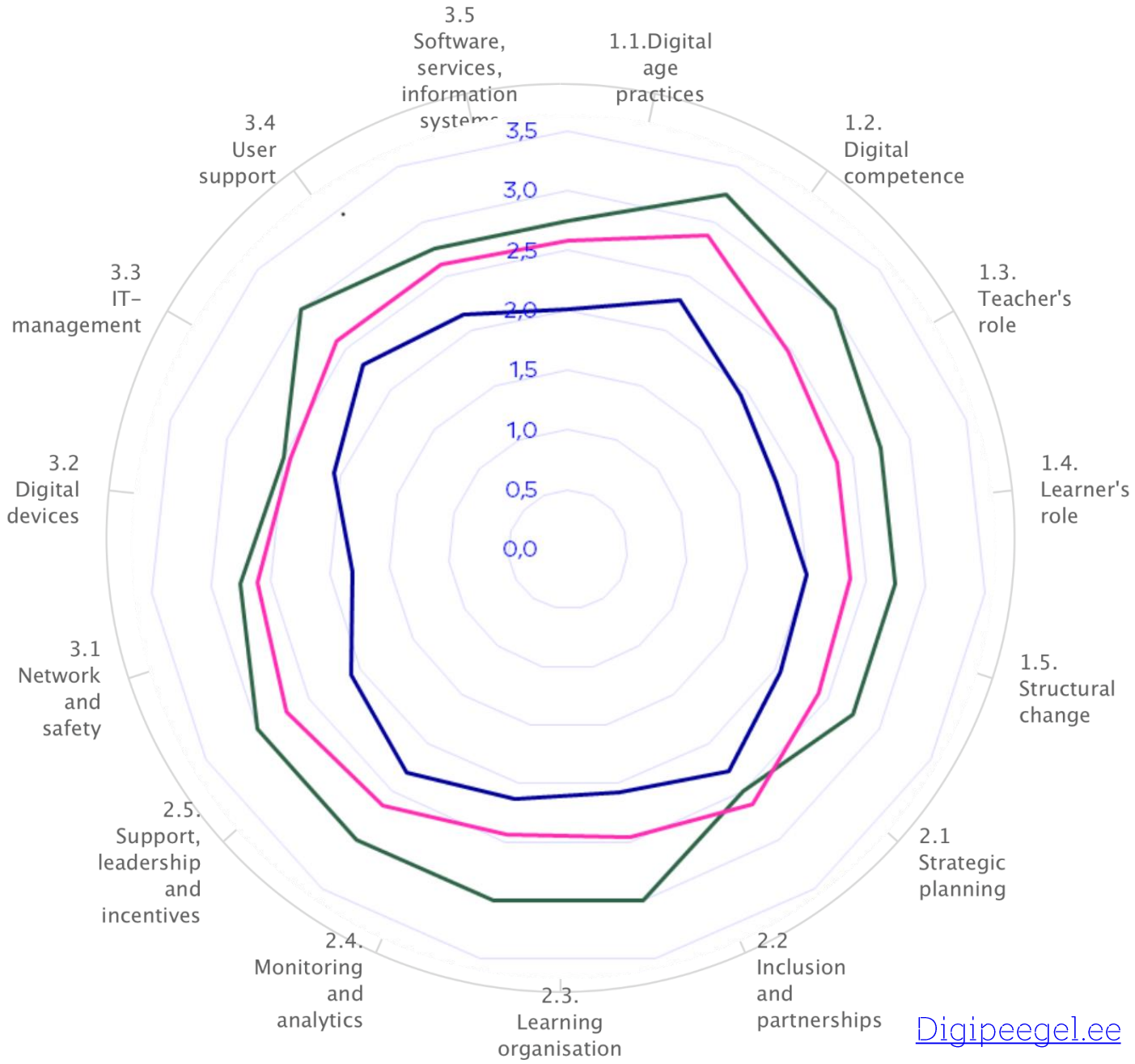
+ Self-assessment:
  + By the principal
  + By digi-team
  + By peer team

+ Data-driven decision-making:
  + Benchmarking
  + Strategic goals
  + Action plan
  + School-owners' digital strategy



Digital Mirror

Self-assessment of schools' digital maturity



2017 report
Aim for 2019
2019 report

Digipeegel.ee

Understanding workforce needs

General ICT skills are becoming an elementary need

- Technological competence will be increasingly required in most professions
- Emphasize sector-specific ICT skill development in various domains
- Demand is rising for workers who can drive digital transformation across all levels and fields
- Understanding sector-specific possibilities of using ICT is crucial

Source: oska.kutsekoda.ee/en/thematic-studies

Why do we talk so much about
digital innovation
but not so much about
pedagogical innovation?

Thank you!

education estonia

Useful materials in English:

+ Digital competence online platform
+ Digital Competence: Empowering teachers and students
+ Teachers improve their digital competence in Digital Accelerator
+ How it all began? From Tiger Leap to digital society
+ Pre-school, basic and secondary education