

# CENTRE FOR EDUCATIONAL DEVELOPMENT

AARHUS UNIVERSITET

CED.AU.DK



DigComp  
HUB

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# DIGCOMP 2.2 FOR HIGHER EDUCATION

THE CASE FROM AARHUS UNIVERSITY, DENMARK

Welcome and introduction (5 min)

Aarhus University and its digital competence strategy (5 min)

Mapping of DigComp 2.2 elements in the current curriculum (10 min)

Development of DigComp 2.2 Model for Higher education (5 min)

Usage of the Model at five faculties at Aarhus University (10 min)

Current status and perspectives of the implementation strategies (5 min).

Questions and discussion of the implementation strategy and how it can be adapted to other institutions (15 min)

Summary and next step (5 min)

## Disclaimer





CED.AU.DK

CAMPUS 2.0

CAMPUS 1.0



# Key stats for the faculties (2020)

## Faculty of **ARTS**

**3** schools

**9,563** students

**305** PhD students

**1,283** FTEs

**EUR 125** million  
(revenue)

**85** QS Ranking

## **AARHUS BSS**

**6** departments

**11,876** students

**238** PhD students

**1,378** FTEs

**EUR 130** million  
(revenue)

**118** QS Ranking

## Faculty of **HEALTH**

**5** departments

**4,528** students

**594** PhD students

**1,543** FTEs

**EUR 172** million  
(revenue)

**75** QS Ranking

## Faculty of **NATURAL SCIENCES & TECHNICAL SCIENCES\***

**14** departments

**7,053** students

**661** PhD students

**3,094** FTEs

**EUR 341** million  
(revenue)

**150** QS Ranking (SC)

**178** QS Ranking (TE)

\* The stats were calculated in 2019 for the former Faculty of Science of Technology

<https://medarbejdere.au.dk/en/administration/communication/aus-presentation-material/general-presentation-of-au>

# HIGHER EDUCATION

EQF LEVEL 8	ACADEMIC LEVEL	DOCTORATE
EQF LEVEL 7		MASTER
EQF LEVEL 6	POST UPPER SECONDARY LEVEL	BACHELOR
EQF LEVEL 5		HIGHER NATIONAL DIPLOMA
EQF LEVEL 4	UPPER SECONDARY LEVEL	HIGHER NATIONAL CERTIFICATE, UPPER SECONDARY DIPLOMA
EQF LEVEL 3	SECONDARY LEVEL	SECONDARY DIPLOMA OR VOCATIONAL DIPLOMA
EQF LEVEL 2	PRIMARY LEVEL	SECONDARY SCHOOL WITH NO DIPLOMA
EQF LEVEL 1		PRIMARY SCHOOL



Higher Educations at University.

<https://www.maintworld.com/R-D/Application-of-European-Qualification-Framework-EQF-in-Maintenance>

# AU STRATEGY 2025 : STUDENT PERSPECTIVE



## INITIATIVES

The university will continue the following ongoing initiatives:

- Recruitment and admission of talented and motivated students
- Engaging Educational IT
- Development of an attractive environment for study that promotes better academic integration of students, 'Campus 2.0'

The university will launch the following new initiatives:

- Better introductory programme for new students
- Electives across degree programmes, for example within sustainability and entrepreneurship
- Digital competencies for all students

# CENTRE FOR EDUCATIONAL DEVELOPMENT

## AIM:

The Centre for Educational Development (CED) aims to continuously support AU's strategy for research-based education of the highest international quality as well as **supporting the 2025 strategy's efforts** in the areas of a better commencement of studies, an attractive study and learning environment, engaging educational IT, **digital competencies**, entrepreneurship and research in the programmes, and graduates for the labour market of the future.

# DIGITAL COMPETENCIES





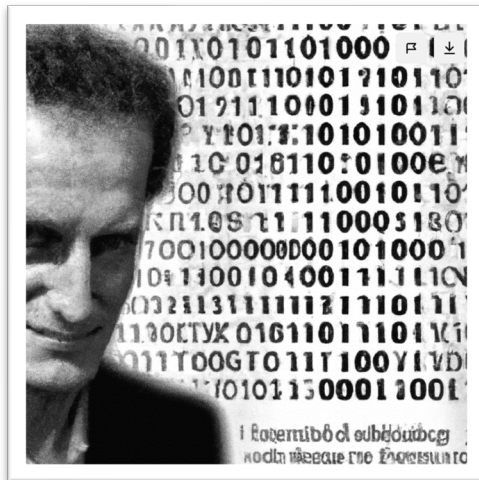
# What do “Digital Competent Graduate” mean?

||

**Wovon man nicht sprechen kann, darüber muß man schweigen.**

Wittgenstein, Ludwig (1993): Tractatus logico-philosophicus.

“What we cannot speak about we must pass over in silence.”



DALL-E



AKG. Licens:

# TYPES OF CURRICULUM AT THE UNIVERSITY

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*Curriculum is the heart of education.*

W. Null. 2023

**Written Curriculum.** A written curriculum is what is formally put down in writing and documented for an education.

**Taught Curriculum.** ...

**Supported Curriculum.** ...

**Assessed Curriculum.** ...

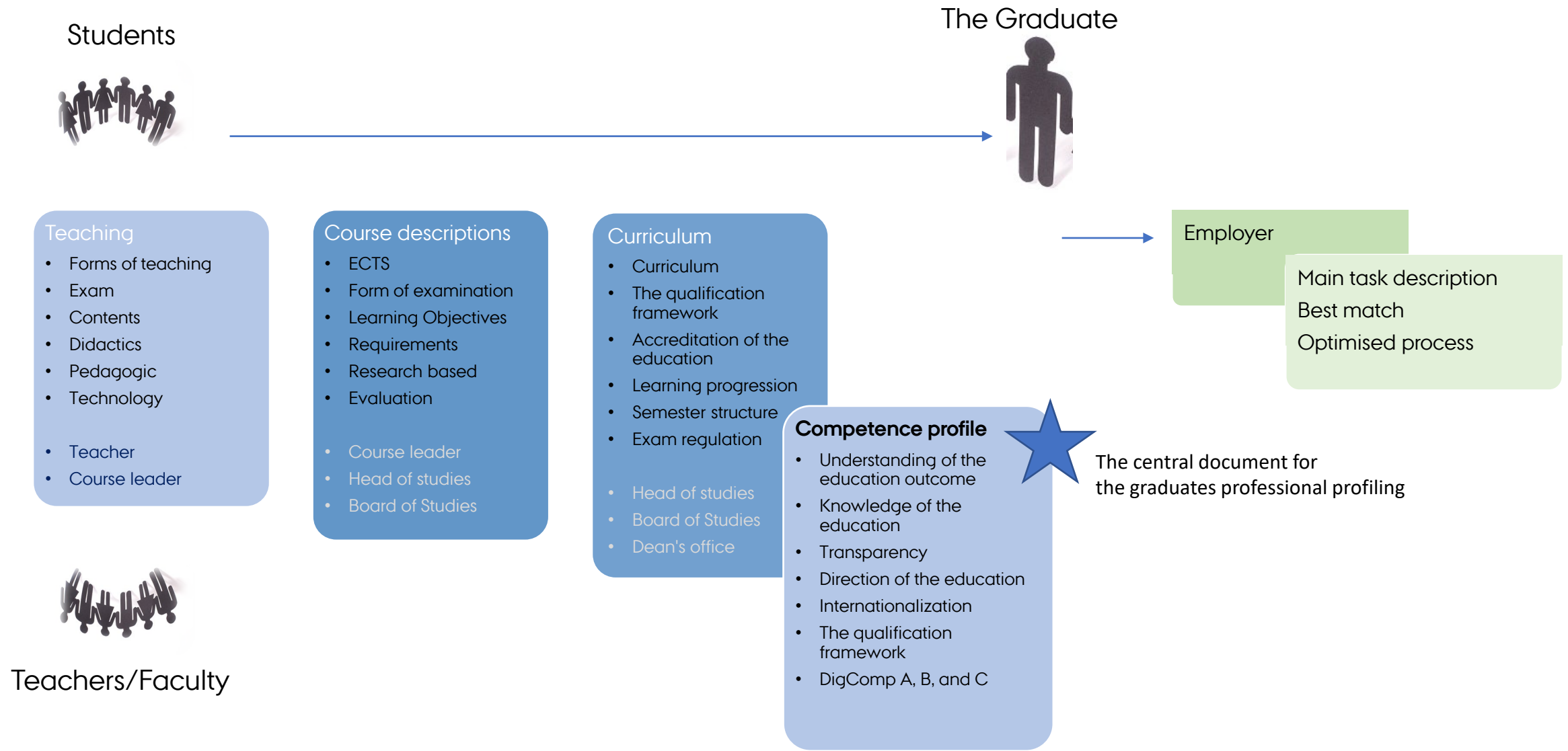
**Recommended Curriculum.** ...

**Hidden Curriculum.** ...

**Excluded Curriculum.** ...

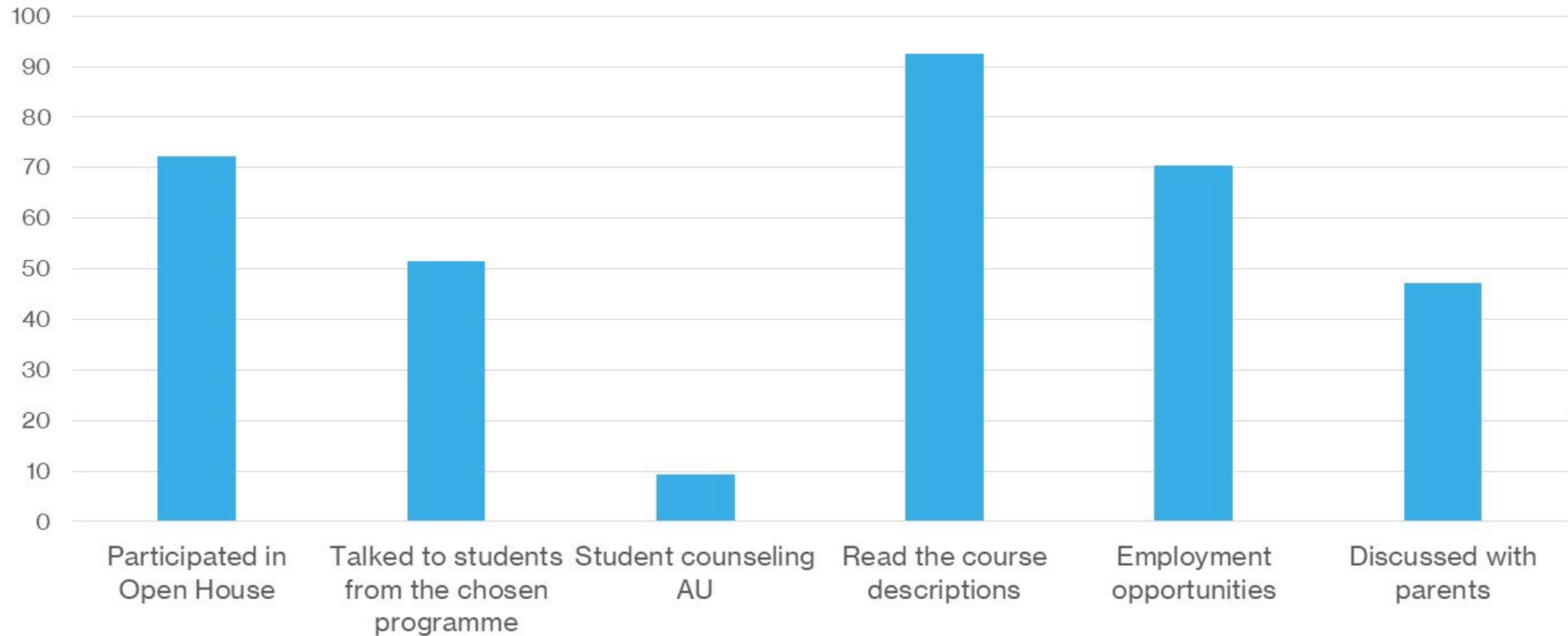
**Learned Curriculum.**

# Written structure for Competent Graduates and Written Curriculum analysis





# What have you done to identify your chosen master degree programme?



218 Cand.Merk studerende AU. 2023

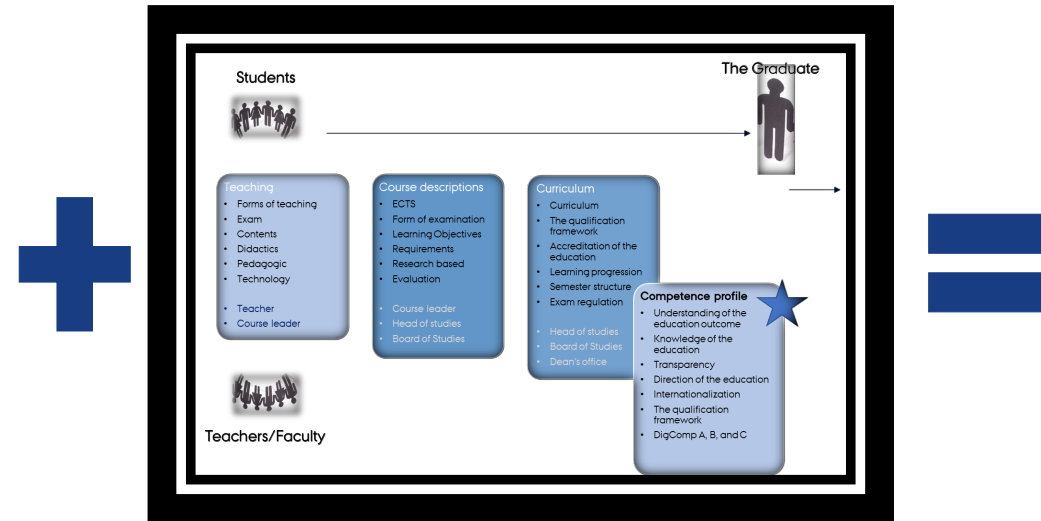


# DIGCOMP 2.2 FRAMEWORK

## DigComp 2.2



## Written curriculum



<http://novateam.dk/artikler/projektlederens-komplekstetsdilemma/>



# EQF AND DIGCOMP 2.2 LEVELS

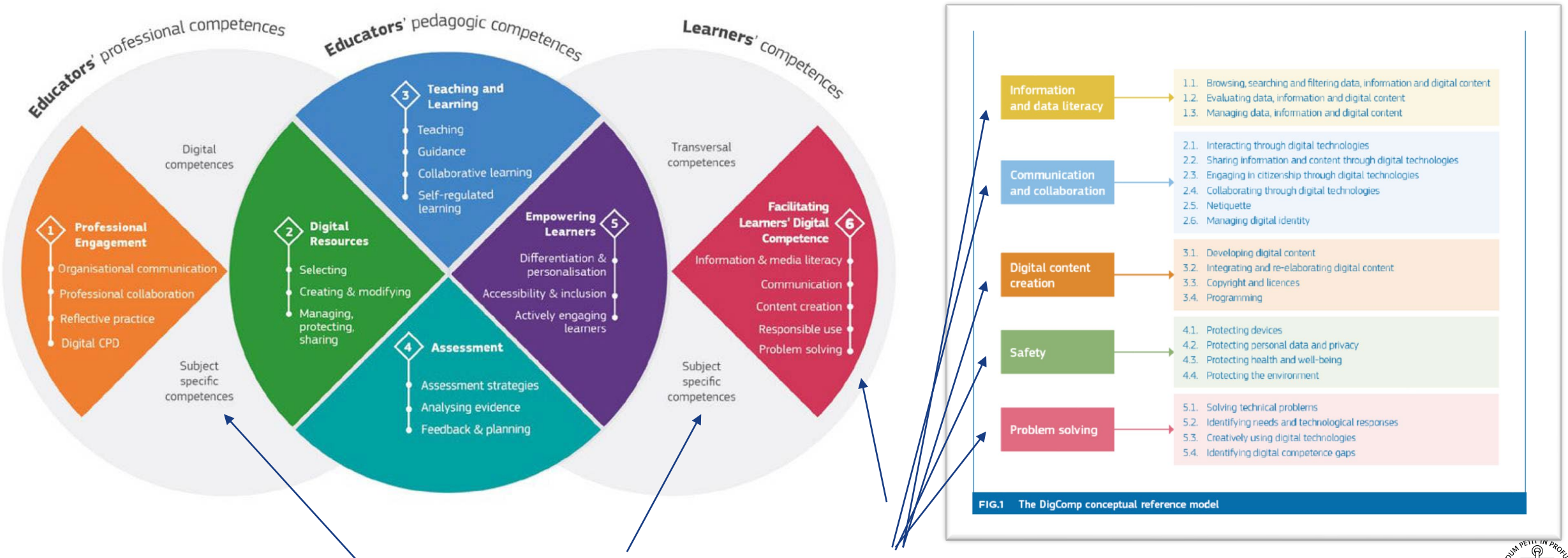
EQF LEVEL 8	ACADEMIC LEVEL	DOCTORATE
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EQF LEVEL 3	SECONDARY LEVEL	SECONDARY DIPLOMA OR VOCATIONAL DIPLOMA
EQF LEVEL 2	PRIMA	
EQF LEVEL 1		

The eight proficiency levels are inspired by the structure and vocabulary of the European Qualification Framework (EQF), however with no link to the qualifications or education and training systems.

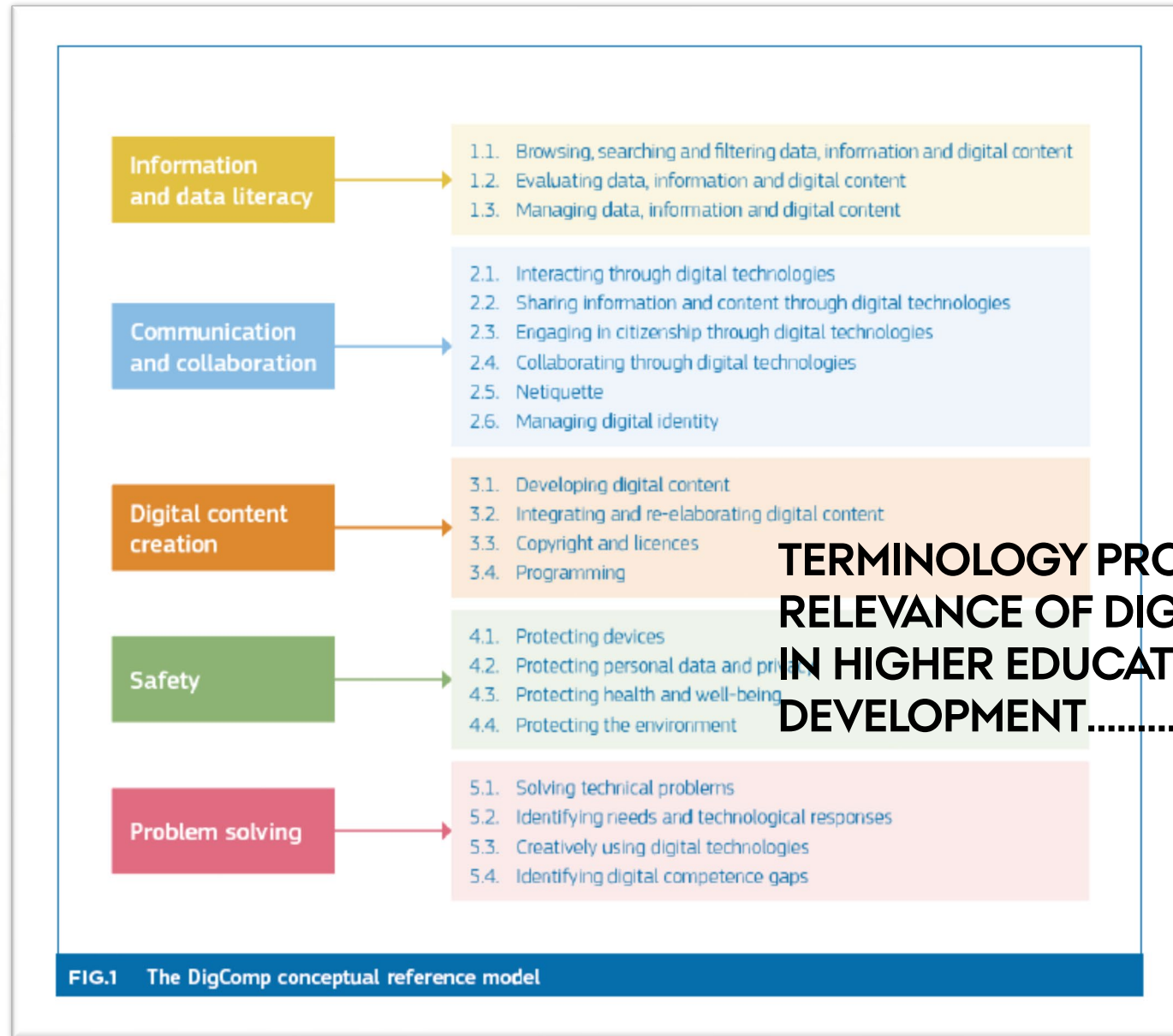


T.6 Main keywords that feature the proficiency levels								
4 OVERALL LEVELS	Foundation		Intermediate		Advanced		Highly specialised	
8 GRANULAR LEVELS	1	2	3	4	5	6	7	8
COMPLEXITY OF TASKS	Simple task	Simple task	Well-defined and routine tasks, and straightforward problems	Tasks, and well-defined and non-routine problems	Different tasks and problems	Most appropriate tasks	Resolve complex problems with limited solutions	Resolve complex problems with many interacting factors
AUTONOMY	With guidance	Autonomy and with guidance when needed	On my own	Independent and according to my needs	Guiding others	Able to adapt to others in a complex context	Integrate to contribute to the professional practice and to guide others	Propose new ideas and processes to the field
COGNITIVE DOMAIN	Remembering	Remembering	Understanding	Understanding	Applying	Evaluating	Creating	Creating

# DIGCOMPEDU AND DIGCOMP 2.2 FRAMEWORKS



# DIGCOMPEDU AND DIGCOMP 2.2 FRAMEWORKS

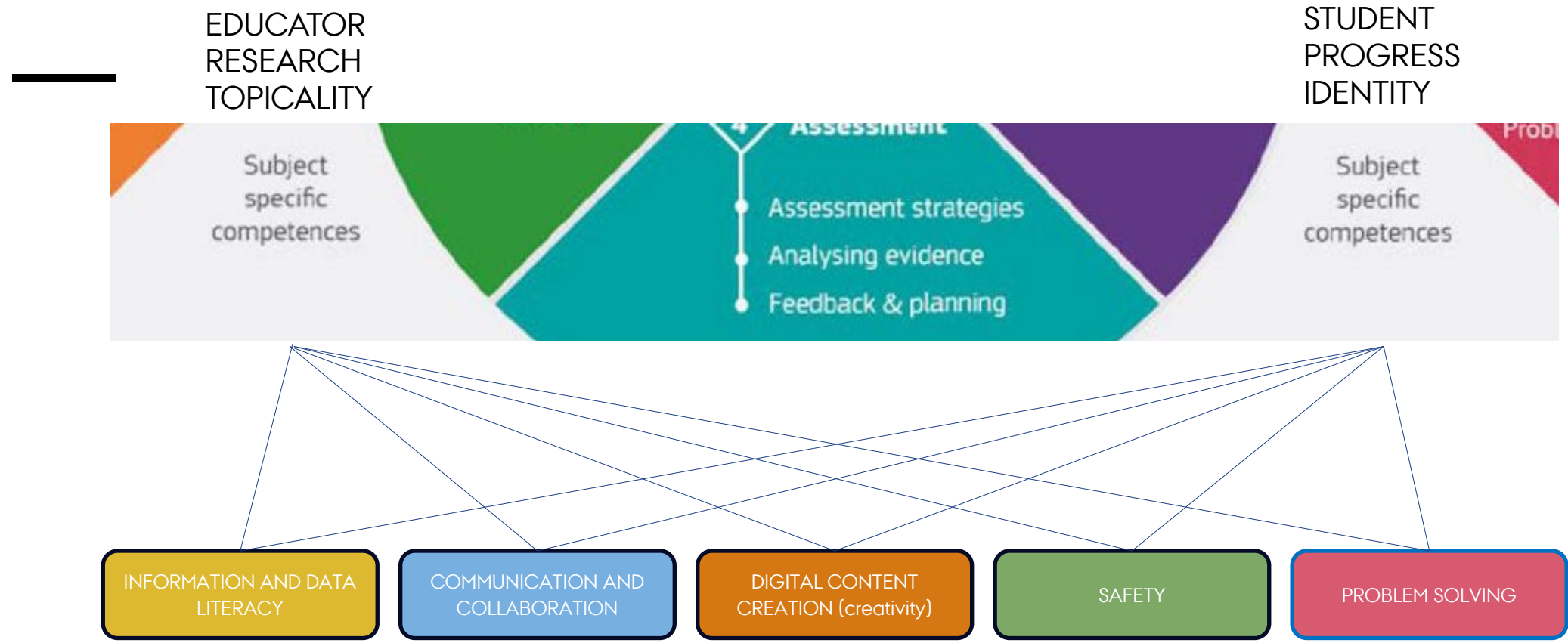


**TERMINOLOGY PROBLEMS AND SUBJECT RELEVANCE OF DIGITAL COMPETENCIES IN HIGHER EDUCATION CURRICULUM DEVELOPMENT.....**

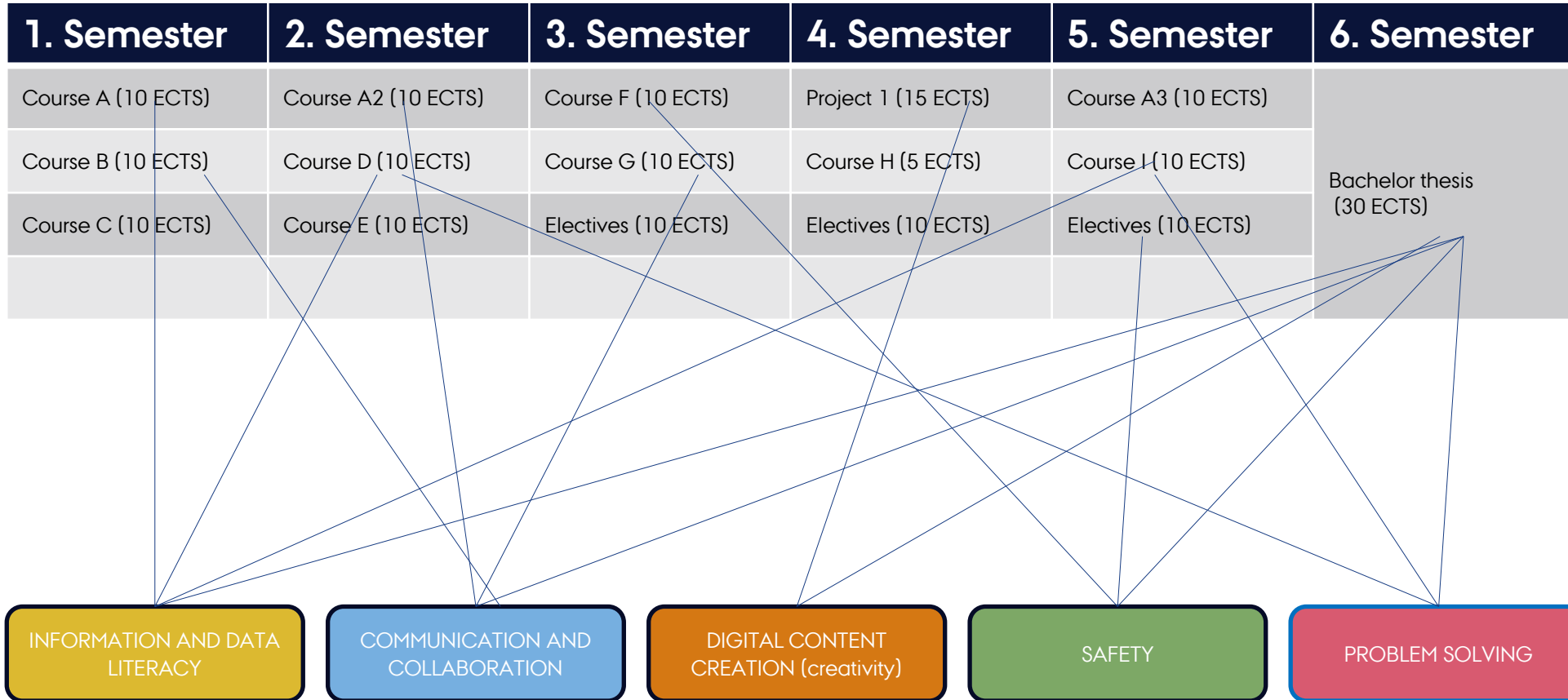
FIG.1 The DigComp conceptual reference model



# DIGCOMPEDU AND DIGCOMP 2.2 FRAMEWORKS

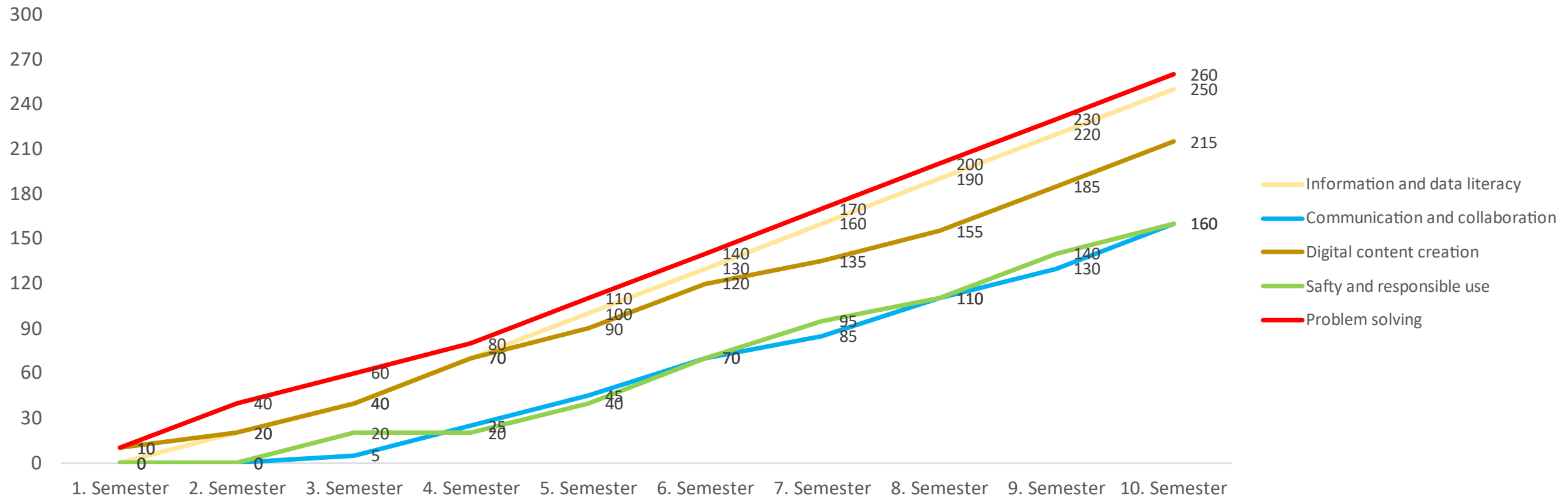


# DIGCOMP 2.2 CORE FRAMEWORK AND CURRICULUM MAPPING



# DIGCOMP 2.2 CORE FRAMEWORK AND CURRICULUM MAPPING AND DIALOG TOOL

Bachelor and Master in Subject X  
accumulated digital competencies development  
(ECTS adjusted, max 300)



# DIALOG TOOLS

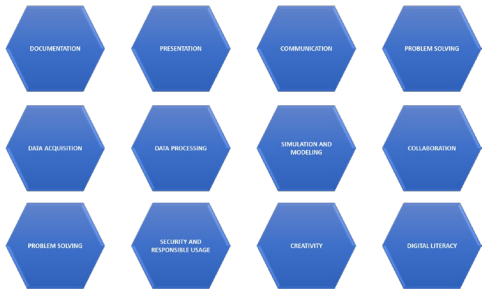
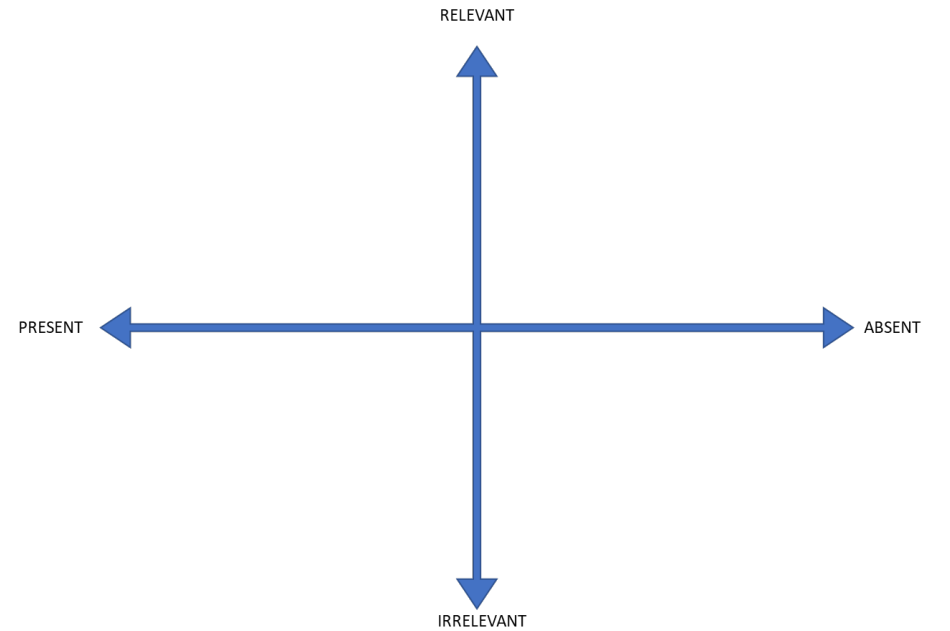
Less relevant		Relevant		Most relevant
-2	-1	0	+1	+2

tool DiKoLAN-Grid

Subject specific digital competencies for the learners to know

EDUCATION: \_\_\_\_\_ FACULTY: \_\_\_\_\_ GROUP NO: \_\_\_\_\_ DATE: \_\_\_\_\_

## MAPPING AND PRIORITISING DIGITAL COMPETENCIES

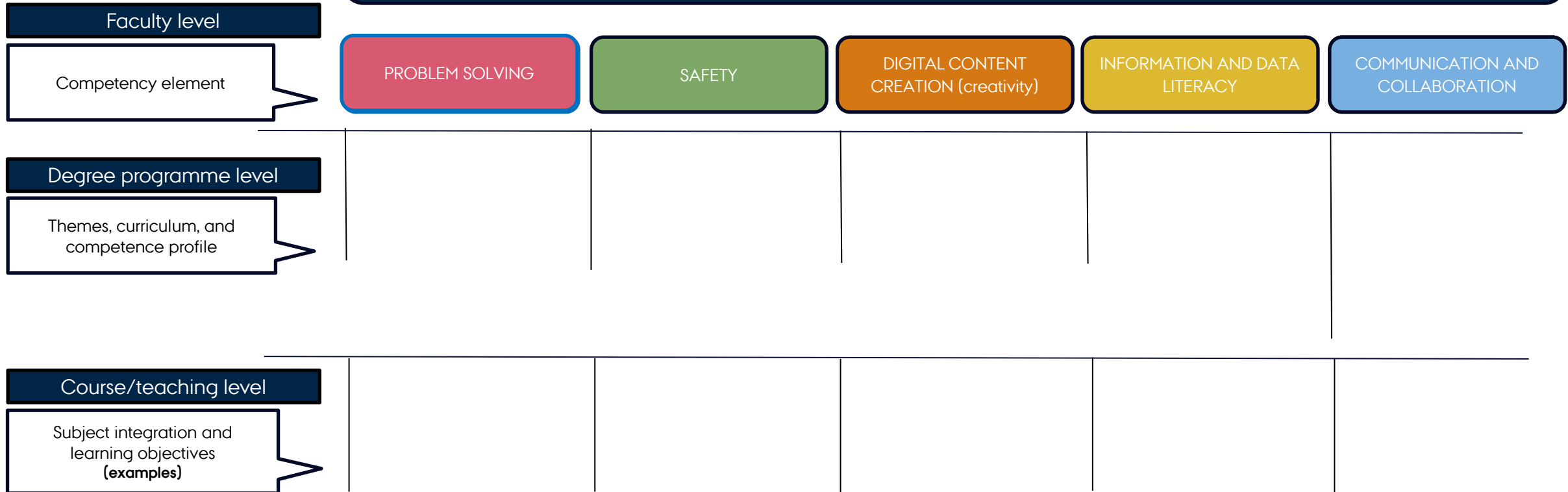




# Model for Digital Competency Development



## Digitally Competent Graduates from .....



# Faculty Model for Digital Competency Development



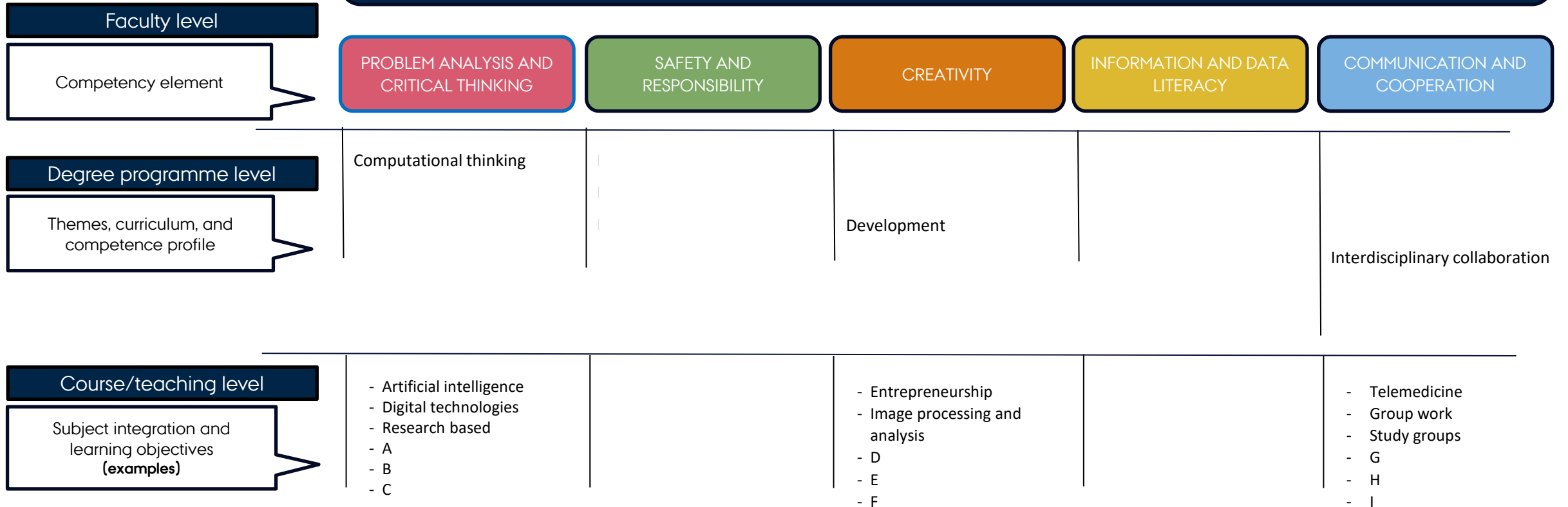
## Digitally Competent Graduates from Health AU

Faculty level	Digitally Competent Graduates from Health AU				
Competency element	PROBLEM ANALYSIS AND CRITICAL THINKING	SAFETY AND RESPONSIBILITY	CREATIVITY	INFORMATION AND DATA LITERACY	COMMUNICATION AND COOPERATION
Degree programme level	Computational thinking Methodology	Information security Legal classifications Ethics	Create content Innovation Development	Data handling Data management Data analytics	Scientific communication Client/Patient communication Citizen involvement Interdisciplinary collaboration Professional communication Professional collaboration
Course/teaching level	<ul style="list-style-type: none"> <li>- Artificial intelligence</li> <li>- Digital technologies</li> <li>- Research based</li> </ul>	<ul style="list-style-type: none"> <li>- GDPR</li> <li>- Data security</li> <li>- Privacy</li> <li>- Legislation</li> </ul>	<ul style="list-style-type: none"> <li>- Entrepreneurship</li> <li>- Image processing and analysis</li> <li>- 3D printing</li> <li>- Open assignments</li> <li>- Programming</li> <li>- Algorithms</li> </ul>	<ul style="list-style-type: none"> <li>- Big Data</li> <li>- Information search</li> <li>- Statistics</li> <li>- Databases</li> <li>- Documentation</li> <li>- Machine Learning</li> </ul>	<ul style="list-style-type: none"> <li>- Telemedicine</li> <li>- Journalizing</li> <li>- Group work</li> <li>- Study groups</li> </ul>
Subject integration and learning objectives (examples)					

# Program Model for Digital Competency Development



## Digitally Competent Graduates from Public Health AU





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# REFERENCER OG LINKS

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- AU strategy 2020-2025. <https://international.au.dk/about/profile/strategy/>
- Biggs, John B., and Kevin F. Collis. *Evaluating the quality of learning: The SOLO taxonomy (Structure of the Observed Learning Outcome)*. Academic Press, 2014.
- Kvalifikationsrammen for Livslang Læring (2008). Uddannelses- og Forskningsministeriets. [https://ufm.dk/uddannelse/anerkendelse-og-dokumentation/dokumentation/kvalifikationsrammer/andre/dk-videregaende/kvalifikationsramme\\_dk\\_videregaende\\_uddannelse\\_20080609.pdf](https://ufm.dk/uddannelse/anerkendelse-og-dokumentation/dokumentation/kvalifikationsrammer/andre/dk-videregaende/kvalifikationsramme_dk_videregaende_uddannelse_20080609.pdf)
- DigComp 2.2. <https://publications.jrc.ec.europa.eu/repository/handle/JRC128415>
- Null, Wesley. *Curriculum: From theory to practice*. Rowman & Littlefield, 2023.
- Rampelt, Florian, Dominic Orr, and Alexander Knoth. "Bologna Digital 2020." *White Paper on Digitalisation in the European Higher Education Area* (2019).
- Kotzebue, Lena von, et al. "The framework DiKoLAN (Digital competencies for teaching in science education) as basis for the self-assessment tool DiKoLAN-Grid." *Education Sciences* 11.12 (2021): 775.
- Model for Digital Competency Development. C Hørsted, MR Dahl 2023. Link: