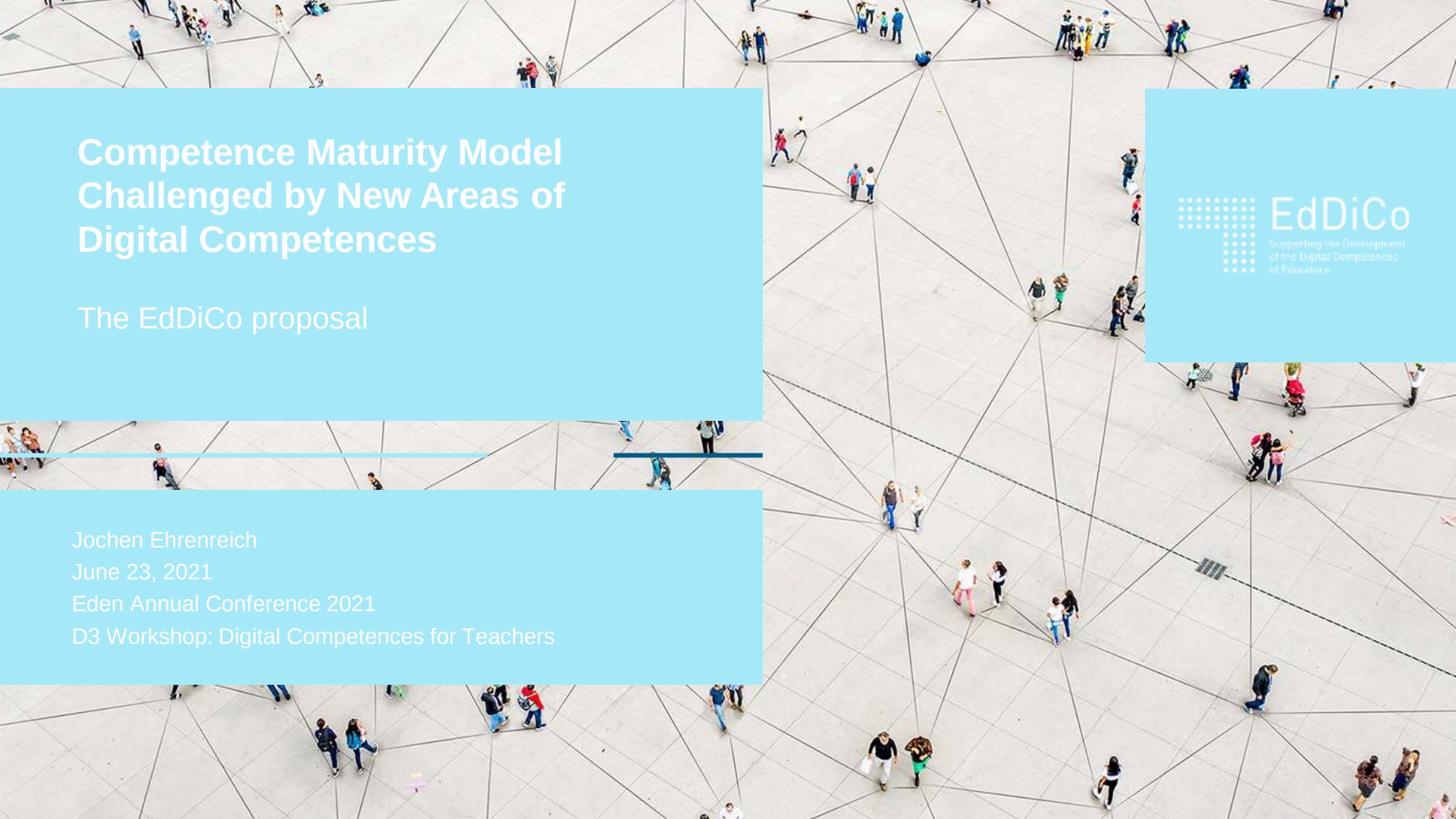


Competence Maturity Model Challenged by New Areas of Digital Competences

The EdDiCo proposal

EdDiCo
Supporting the Development of the Digital Competences of Educators

Jochen Ehrenreich
June 23, 2021
Eden Annual Conference 2021
D3 Workshop: Digital Competences for Teachers

EdDiCo
Supporting the Development of the Digital Competences of Educators

Germany

Malta

Finland

Lithuania

Italy

Germany

Spain

EdDiCo Project Aims

1. **Learning Maturity Model for Digital Education Competence** based on
   a) a review of Digital Competence Frameworks for Educators
   b) the DigCompEdu Framework
   c) the Tuning/Calohee Descriptors

2. **Self-Assessment and Recommendation Tool**
   for Digital Competences of Educators
   Challenges:
   a) Problem-based assessment (as opposed to self-attribution of competence level or achievement-based assessment)
   b) automated assessment

3. **Directory of Learning Opportunities and Educational Resources**
   for Digital Education
   - Based on the self-assessment and on individual learning goals, the tool will suggest (open) learning opportunities

Needs and Expectations of Educators on Digital Competences

The purpose of this investigation was to better understand the main target group (HE teachers) of the project and their needs in terms of digital competences.

- What do they need?
- What do they want?
- What do they use?
- How do they learn?
- How do they develop certain competences?
- How do they relate to digital tools?
- Are they familiar with digital competence frameworks?

n= 19

Semi-structured interviews carried out between January 2020 and March 2020 in Italy, Germany, Finland, Lithuania and Spain, before as well as during the Covid-19 related shift to online learning and teaching
https://eddico.eu/outputs/wp1/

Focus on Short Learning Opportunities for CPD

Development of digital competences

Teachers are reluctant to enroll in specific courses — due to → Lack of time
Lack of incentives

↓

They prefer:
- **learning by doing**
- **problem-based learning**
- **collaborative learning**
- **self-training** →
  - MOOC
  - web search
  - participation to national and international projects and conferences

Lack of Time and Incentives

“When I take a formal continuing professional development course (CPD), then I still have to do the same amount of teaching, so

my to-do list just gets longer.

This is why I carefully judge whether I actually need this CPD course or not.

Already now I know how I could improve my teaching,

but this would require that I put more time and effort into it, which I cannot afford to do because of other obligations.”

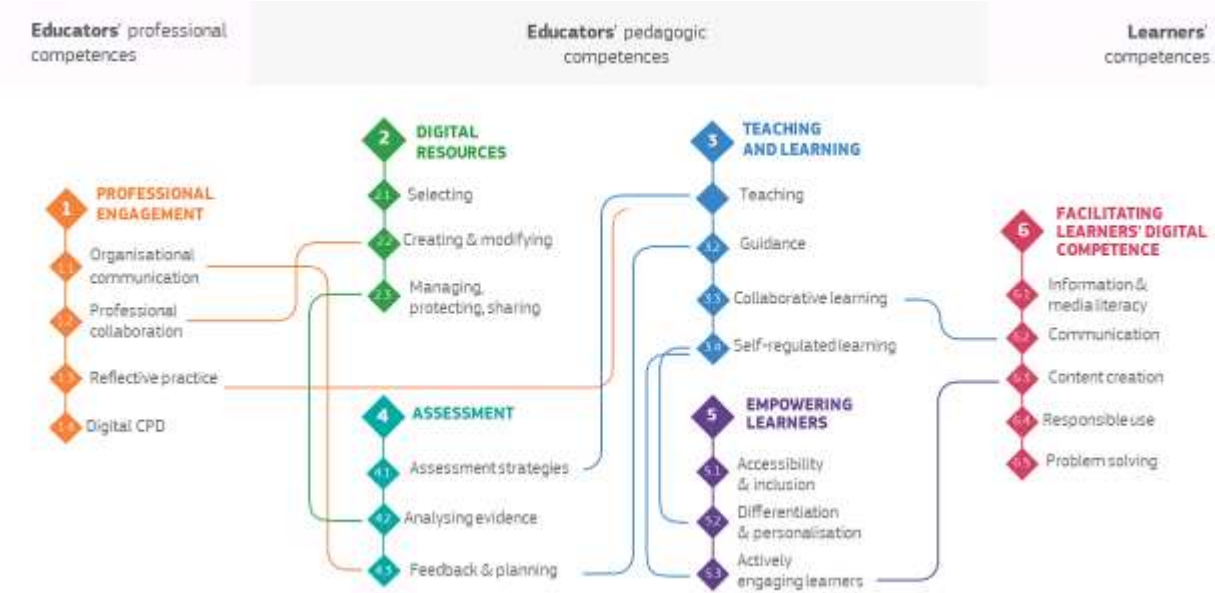
[University Professor, Germany]

DigCompEdu


Educators' professional competences
Educators' pedagogic competences
Learners' competences
Digital competences
Transversal competences
Subject specific competences
Subject specific competences
1 Professional Engagement
2 Digital Resources
3 Teaching and Learning
4 Assessment
5 Empowering Learners
6 Facilitating Learners' Digital Competence


EdDiCo
Supporting the Development of the Digital Competences of Educators

DigCompEdu



Source:
https://ec.europa.eu/jrc/en/digcompedu/framework

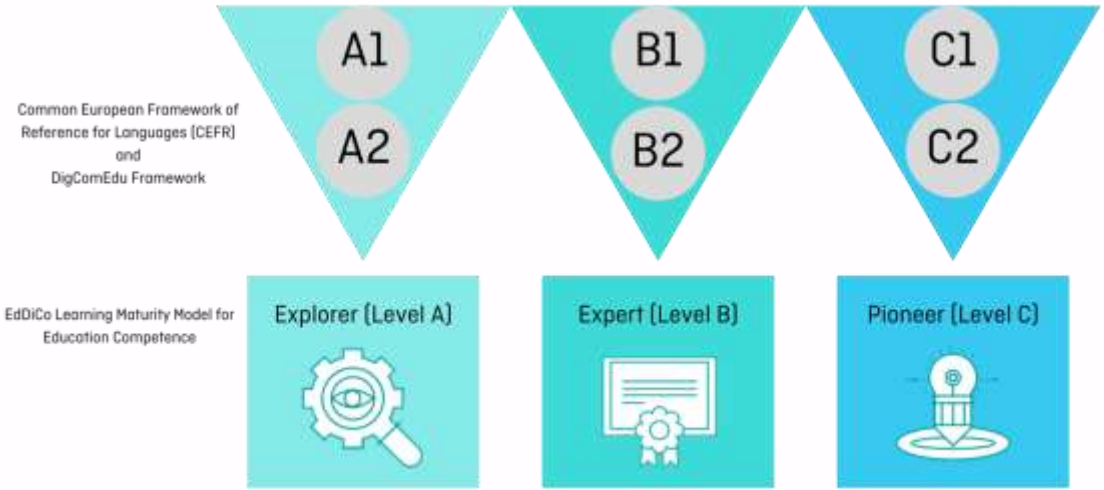
Learning Maturity Model for DigCompEdu

Knowledge

Skills

Attitudes

Learning Maturity Model for DigCompEdu



DigCompEdu

Synthesis of the DigCompEdu Framework

1. Professional engagement	2. Digital Resources	3. Teaching and Learning	4. Assessment	5. Empowering Learners	6. Facilitating Learners' Digital Competence
1.1 Organisational communication To use digital technologies to enhance organisational communication with learners, parents and third parties. To contribute to collaboratively developing and improving organisational communication strategies.	**2.1 Selecting digital resources** To identify, assess and select digital resources for teaching and learning. To consider the specific learning objective, context, pedagogical approach, and learner group, when selecting digital resources and planning their use.	**3.1 Teaching** To plan for and implement digital devices and resources into the teaching process, so as to enhance the effectiveness of teaching interventions. To appropriately manage and orchestrate digital teaching interventions. To experiment with and develop new formats and pedagogical methods for instruction.	**4.1 Assessment strategies** To use digital technologies for formative and summative assessment. To enhance the diversity and suitability of assessment formats and approaches.	**5.1 Accessibility and inclusion** To ensure accessibility to learning resources and activities, for all learners, including those with special needs. To consider and respond to learners' (digital) expectations, abilities, uses and misconceptions, as well as contextual, physical or cognitive constraints to their use of digital technologies.	**6.1 Information and media literacy** To incorporate learning activities, assignments and assessments which require learners to articulate information needs; to find information and resources in digital environments; to organise, process, analyse and interpret information; and to compare and critically evaluate the credibility and reliability of information and their sources.
1.2 Professional collaboration To use digital technologies to engage in collaboration with other educators, sharing and exchanging knowledge and experiences and collaboratively innovating pedagogic practices.	**2.2 Creating and modifying digital resources** To modify and build on existing openly-licensed resources and other resources where this is permitted. To create or co-create new digital educational resources. To consider the specific learning objective, context, pedagogical approach, and learner group, when designing digital resources and planning their use.	**3.2 Guidance** To use digital technologies and services to enhance the interaction with learners, individually and collectively, within and outside the learning session. To use digital technologies to offer timely and targeted guidance and assistance. To experiment with and develop new forms and formats for offering guidance and support.	**4.2 Analysing evidence** To generate, select, critically analyse and interpret digital evidence on learner activity, performance and progress, in order to inform teaching and learning.	**5.2 Differentiation and personalisation** To use digital technologies to address learners' diverse learning needs, by allowing learners to advance at different levels and speeds, follow individual learning pathways and goals.	**6.2 Digital communication & collaboration** To incorporate learning activities, assignments and assessments which require learners to effectively and responsibly use digital technologies for communication, collaboration and civic participation.
1.3 Reflective practice To individually reflect on, critically assess and actively develop one's own digital pedagogical practice and that of one's educational community.	**2.3 Managing, protecting and sharing digital resources** To organise digital content and make it available to learners, parents and other educators. To effectively protect sensitive digital content. To respect privacy and copyright rules. To understand the use and creation of open licenses and open educational resources, including their proper attribution.	**3.3 Collaborative learning** To use digital technologies to foster and enhance learner collaboration. To enable learners to use digital technologies as part of collaborative assignments, as means for enhancing communication and collaboration and for collaborative knowledge creation.	**4.3 Feedback and Planning** To use digital technologies to provide targeted and timely feedback to learners. To adapt teaching strategies accordingly and to provide targeted support, based on the evidence generated by the digital technologies used. To enable learners and parents to understand the evidence provided by digital technologies and use it for decision-making.	**5.3 Actively engaging learners** To use digital technologies to foster learners' active and creative engagement with a subject matter. To use digital technologies within pedagogic strategies that foster learners' transversal skills, open learning to new, real-world contexts, involve learners themselves in hands-on activities, scientific investigation and complex problem solving, or in other ways that increase learners' active engagement and creative expression.	**6.4. Responsible use** To take measures to ensure learners' physical, psychological and social wellbeing while using digital technologies. To empower learners to manage risks and use digital technologies safely and responsibly.
1.4 Digital Continuous Professional Development (CPD) To use digital sources and resources for continuous professional development.		**3.4 Self-regulated learning** To use digital technologies to support self-regulated learning processes, i.e. to enable learners to plan, monitor and reflect on their own learning, provide evidence of progress, share insights and come up with creative solutions.			**6.5 Digital problem solving** To incorporate learning and assessment activities which require learners to identify and solve technical problems or to transfer technological knowledge creatively to new situations.

Source:
https://ec.europa.eu/jrc/en/digcompedu/framework

Learning Maturity Model for DigCompEdu

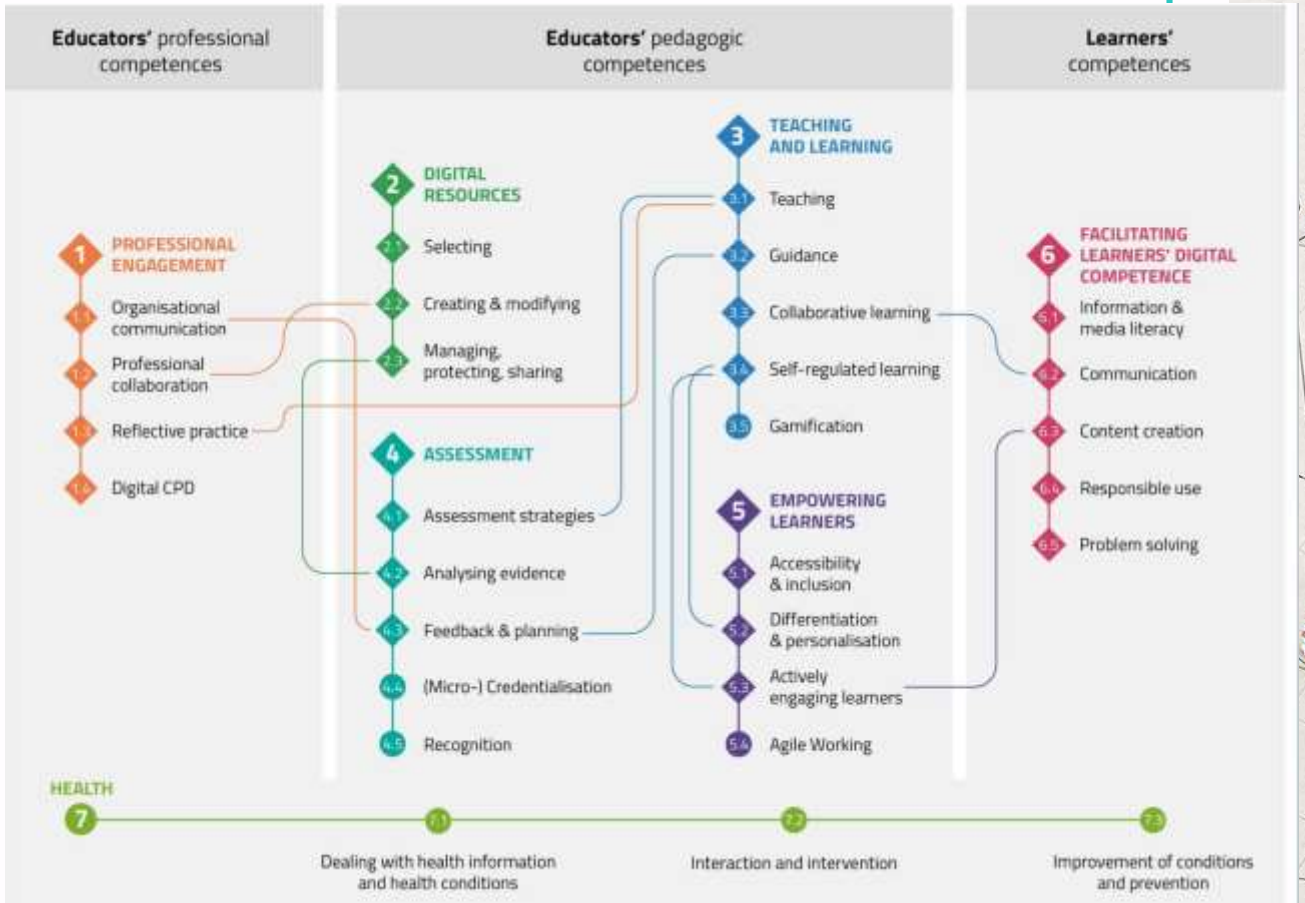
	Knowledge (Content related expertise)	Skills (Application of knowledge)	Attitudes (Autonomy and Responsibility)
Dimension 1: Professional Engagement			
Subset 1.1 Organisational Communication To use digital technologies to enhance organisational communication with learners, parents and third parties. To contribute to collaboratively developing and improving organisational communication strategies. (DigCompEdu)			
Explorer (Level A)	is aware of basic means and digital technologies to enhance organisational communication	makes basic use of digital technologies to enhance communication with learners, parents, colleagues, support staff or third parties relevant to the educational project (e.g. experts to be invited, places to be visited)	interest in improving organisational communication strategies
Expert (Level B)	knows how to use a range of digital technologies to enhance organisational communication and what technology to use it depending on the specific purpose and context	uses different digital communication channels and tools, depending on the communication purpose and context (e.g. via the organisation's website or through corporate digital technologies, platforms or communication services contracted) and adapts his/her communication strategies to the specific audience	responsible attitude, communicating ethically with digital technologies (e.g. respecting netiquette)
Pioneer (Level C)	relies on a broad repertoire of digital technologies and strategies to enhance organisational communication	frequently evaluates, discusses and adapts his/her communication strategies and uses digital technologies to make administrative procedures more transparent for learners and/or parents and to allow them to make informed choices on future learning priorities	reflective approach, collaboratively discussing and re-designing organisational communication strategies, contributing to developing a coherent vision

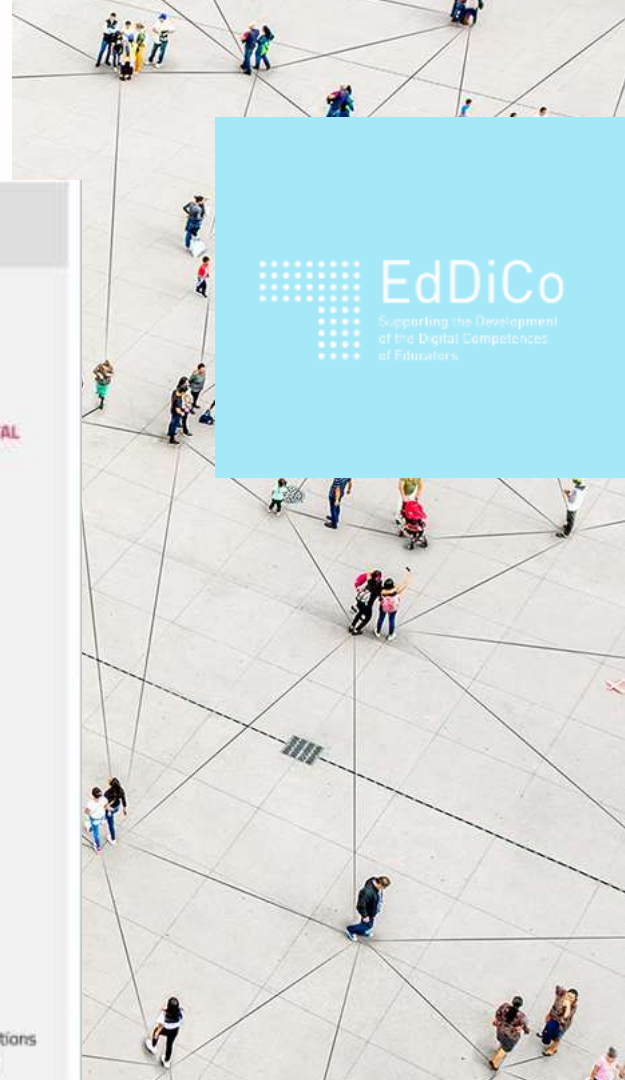
DigCompEdu

Source:
https://ec.europa.eu/jrc/en/digcompedu/framework

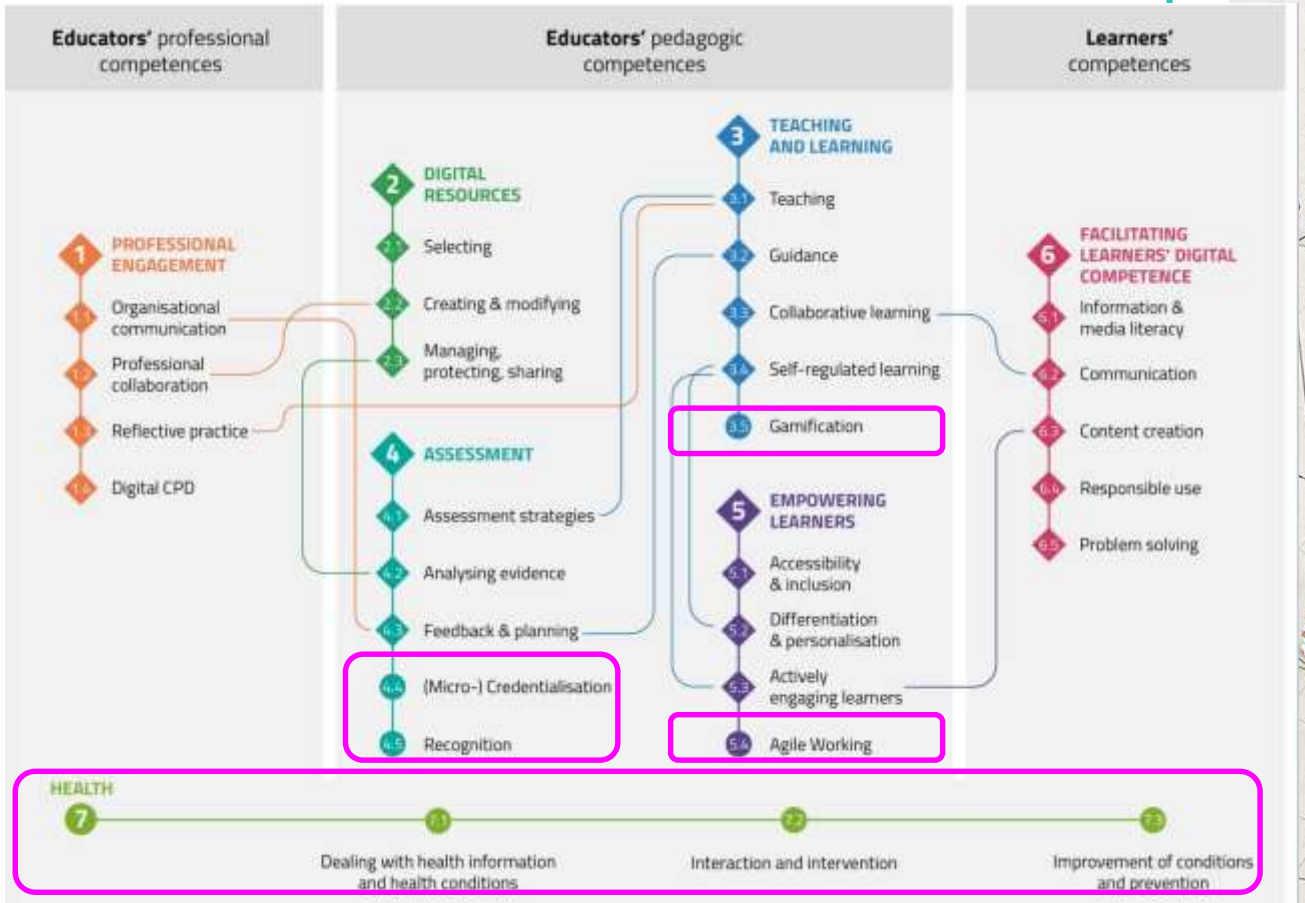
	A1 Newcomer	A2 Explorer	B1 Integrator	B2 Expert	C1 Leader	C2 Pioneer
1. Professional engagement	AWARENESS; UNCERTAINTY; BASIC USE	EXPLORING DIGITAL OPTIONS	EXPANDING PROFESSIONAL PRACTICE	ENHANCING PROFESSIONAL PRACTICE	DISCUSSING AND RENEWING PROFESSIONAL PRACTICE	INNOVATING PROFESSIONAL PRACTICE
1.1 Organisational communication To use digital technologies to enhance organisational communication with learners, parents and third parties. To contribute to collaboratively developing and improving organisational communication strategies.	Making little use of digital technologies for communication.	Being aware and making basic use of digital technologies for communication.		Using digital technologies for communication in an effective and responsible way.	Using digital technologies for communication in a structured and responsive way.	Evaluating and discussing communication strategies.
	I rarely use digital technologies for communication.	I make use of digital technologies for communication	e.g. with learners, parents, colleagues or support staff.	I use different digital communication channels and tools, depending on the communication purpose and context. I communicate responsibly and ethically with digital technologies, e.g. respecting netiquette and acceptable use policies (AUP).	I select the most appropriate channel, format and style for a given communication purpose and context. I adapt my communication strategies to the specific audience.	I evaluate, reflect on and collaboratively discuss how digital technologies are used effectively for organisational and individual communication. I use digital technologies to make administrative procedures more transparent for learners and/or parents and to allow them to make informed choices on future learning priorities.
1.2 Professional collaboration To use digital technologies to engage in collaboration with other educators, sharing and exchanging knowledge and experiences and collaboratively innovating pedagogic practices.	Making little use of digital technologies for collaboration.	Being aware and making basic use of digital technologies for collaboration.	Using digital technologies to share and exchange practice.	Using digital technologies for collaborative knowledge construction.	Using digital technologies for reflecting on and enhancing practices and competences.	Using digital technologies to facilitate innovative practice.
	I rarely use digital technologies to collaborate with colleagues.	I use digital technologies to collaborate with colleagues in my organisation, e.g. on a dedicated joint project, or to exchange content, knowledge and opinions.	I use digital communities to explore new pedagogic resources or methods and to get fresh ideas. I use digital technologies to share and exchange the resources I use, my knowledge	I actively use digital communities to exchange ideas and collaboratively develop digital resources.	I use the insight and resources, generated in the collaborative networks I belong to, to get feedback on and improve my competences, and to expand my repertoire of digital practices.	I use digital communities to help other educators develop their digital and pedagogic competences. I use digital communities to collaborate with peers on innovating pedagogical

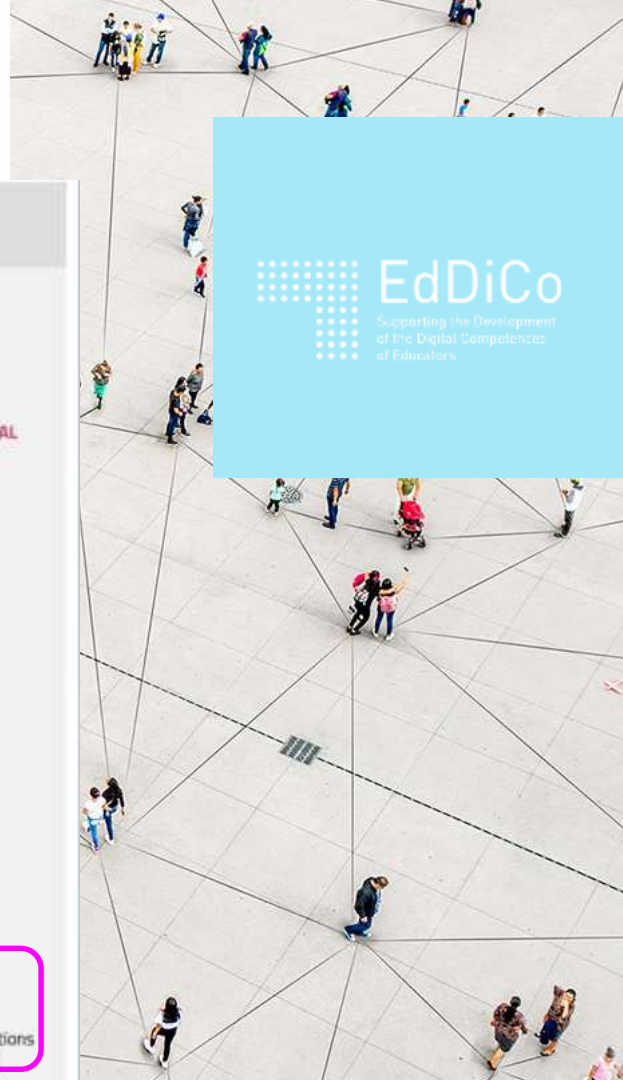
Competences added to DigCompEdu





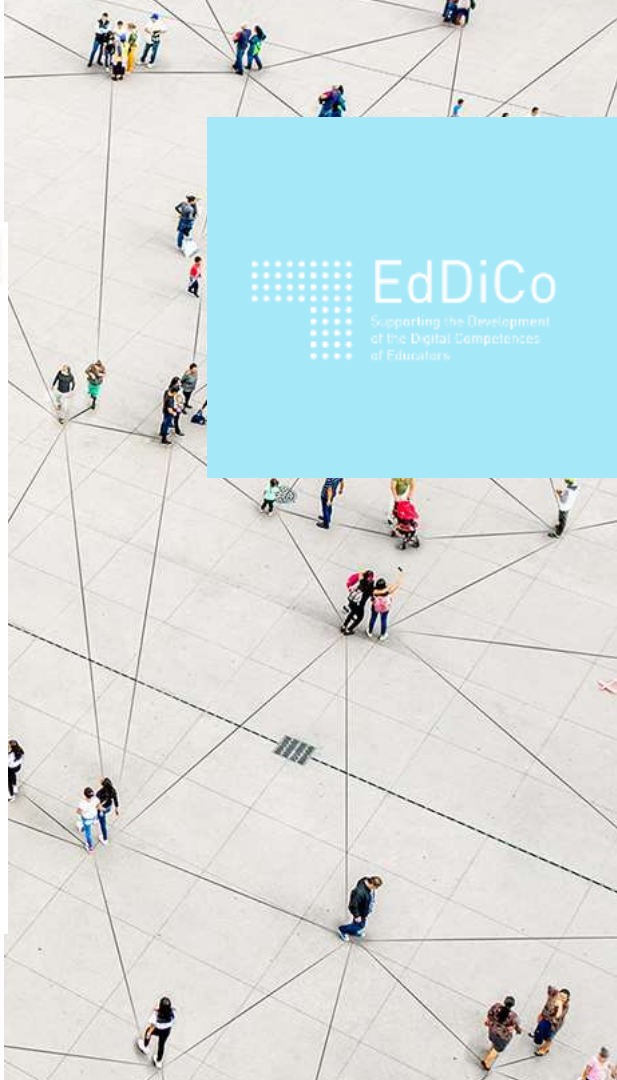
Competences added to DigCompEdu





What others are developing:
European Commission / JRC Selfie for Teachers

Source:
https://ec.europa.eu/jrc/communities/en/community/digcompedu-community/news/selfie-teachers-pre-pilot-study-launched



What others are developing: EDEN Qualification Framework for Online Teachers

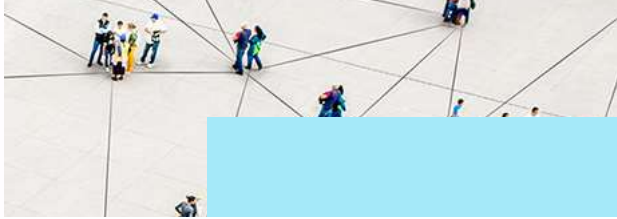
1. Knowledge management and creation
2. Design and management of processes of learning, teaching and assessment
3. Learner empowerment, potential and creativity
4. Values and social leadership
5. Communication
6. Development as online professionals and life-long learners

Authors:

Alfredo Soeiro (University of Porto, Portugal)
Antonella Poce (University Roma TRE, Italy)
Don Olcott, Jr. (Global Consultant, Romania)

Source:
https://www.eden-online.org/eden-qualification-framework-for-online-teachers/

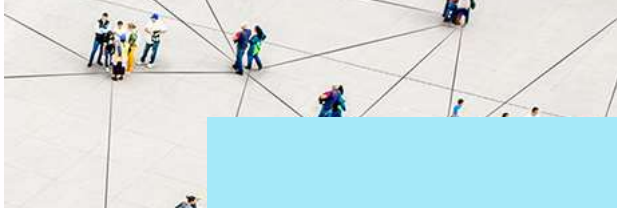
Micro-Credentialisation



Subset 4.4
(Micro-) Credentialisation
To design badges/credentials that contain all the available information to facilitate recognition (of intermediate achievements). (our own suggestion)

Explorer (Level A)	is aware of the process of designing micro-credentials on the levels of micro and macro curriculum level and the links and meta-data between the credential and digital curriculum in a virtual learning environment	uses existing systems to issue digital credentials; designs micro-credentials on the levels of micro and macro curriculum level and the links and meta-data between the credential and digital curriculum in a virtual learning environment	interest in the potential of micro-credentials to support the principles of learning outcome recognition and ECTS transfer among EHEA
Expert (Level B)	has advanced knowledge on the process of designing micro-credentials on the levels of micro and macro curriculum level and is able to explain the links and meta-data between the credential and digital curriculum in a virtual learning environment	uses and explains a credentialing systems to issue digital credentials; consults on the process of designing digital credentials and peer-reviews micro-credentials developed on the micro and macro curriculum level and reviews as well as updates the meta-data for credentials on learning outcomes, assessment method, EQF level etc. from IT systems such as the digital curriculum in a virtual learning environment	curiosity towards digital and micro-credentials as a means to support the principles of learning outcome recognition and ECTS transfer among the EHEA
Pioneer (Level C)	has comprehensive knowledge of the process of designing micro-credentials on the levels of micro and macro curriculum level and the links and meta-data between the credential and digital curriculum in virtual learning environment	continuously monitors digital activity and reflects on and synthesises digital learner data to identify learning patterns and adapts his/her teaching strategies; critically assesses and discusses the value and validity of different data sources as well as the appropriateness of common methods used for data analysis	commitment towards empowering colleagues in designing digital and micro-credentials as a means to support the principles of learning outcome recognition and ECTS transfer among the EHEA

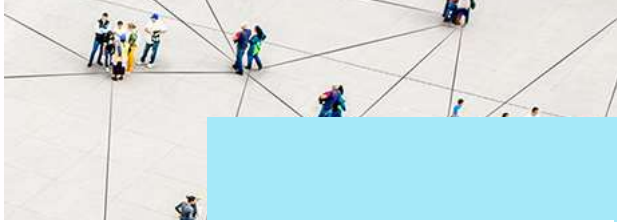
Recognition



Subset 4.5
Recognition
To judge information provided in learning credential and additional information to recognize skills and competences towards a larger credential. (our own suggestion)

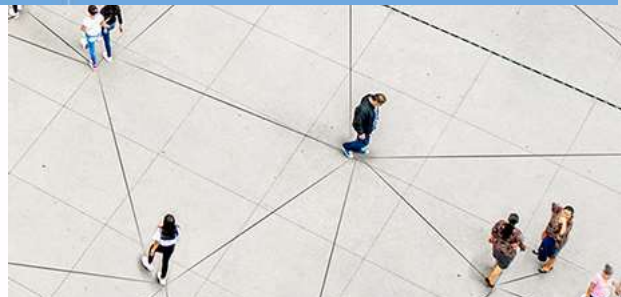
Explorer (Level A)	knows the institutional guidelines and tools for recognition of formal and non-formal learning	compares documented achievements and assessment methods with the learning outcomes or competences to be recognised; checks the validity of a credential; converts the grade, documents and communicates the recognition decision; applies the institutional guidelines and tools for recognition of formal and non-formal learning	positive attitude towards recognition of formal and non-formal learning
Expert (Level B)	knows both the institutional guidelines and tools and the relevant principles and regulations for recognition of formal and non-formal learning	trains and consults on the processes for recognition of formal and non-formal learning; designs curricula to support recognition. prepares and signs credit recognition agreements; provides information to learners on open learning and how it can be recognised; applies the institutional guidelines and tools for recognition of formal and non-formal learning	commitment to convince colleagues of the advantages of recognition. advocacy for transparent and easy-to-follow processes for recognition in his/her institution
Pioneer (Level C)	knows and improves the institutional guidelines and tools and the in the light of recent discussions and updates of the relevant principles and regulations for recognition of formal and non-formal learning	explains, creates, implements and continuously improves institutional procedures and tools for recognition, such as clearly defined and harmonized processes for recognition, recognition database, data standards and digital information exchange, information to learners about open learning and how it can be recognized, stakeholder involvement. shares and discusses experiences and developments with the relevant community	commitment to ensure that the same level of criteria for recognition is applied across the institution and to (further) develop a recognition database within his/her institution

Gamification

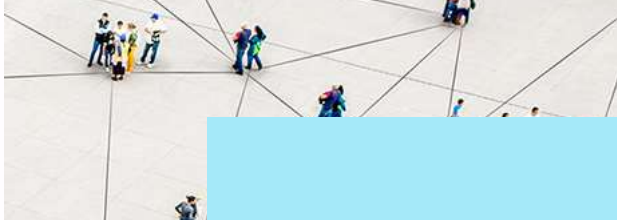


Subset 3.5
Gamification
To use gamification elements such as challenges, competitions, points, badges, and leaderboards to make the learning experience more enjoyable and the learning outcome more sustainable. (our own suggestion)

Explorer (Level A)	knows what digitally supported gamification is and how it applies through specific samples	is able to apply a digitally supported gamified process in teaching and learning situations to improve student's involvement if he/she is provided with the technology	general interest in digitally supported gamification processes
Expert (Level B)	knows the concept behind digitally supported gamification processes and the varieties and opportunities of different gamification offers.	is able to apply a digitally supported gamification process in teaching and learning situations and choose the best technology to obtain the desired learning outcomes	explorative attitude toward selecting technologies that can better drive the digitally supported gamification activities and redesigning learning activities for gamification purposes
Pioneer (Level C)	has a wide knowledge of digitally digitally supported gamification processes in teaching and learning	is able to design, implement and evaluate a digitally supported gamification process regardless of available digital technology and integrates the activities in the whole learning process; uses the potential of digitally supported gamification for motivation, creativity & autonomy of learners, as well as for tolerance towards complexity and failure	creative approach toward creating learner-centric digitally supported gamification processes and exploring new areas for applying digitally supported gamification in learning



Recognition



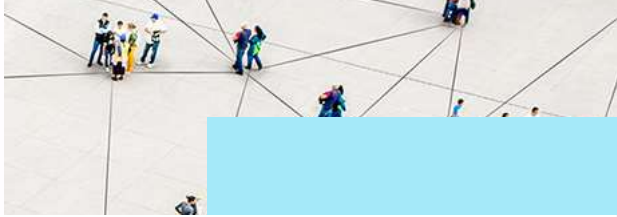
Subset 5.4
Agile working
To empower learners in an interdisciplinary team to collaboratively develop a rapid prototype of problem solving, that creates value for the user, by employing agile and iterative methods. (our own suggestion)

Explorer (Level A)	is aware of agile methods and their potential to empower students to work collaboratively and iteratively on user-centric prototypes	makes basic use of digital technologies and agile methods to motivate students and prepare them to adapt to changes (e.g. using flexible learning environments and digital technologies to support active and collaborative learning)	interest in the potential of agile methods for student learning processes
Expert (Level B)	knows various agile methods and digital technologies to facilitate an agile classroom as well as the agile philosophy to encourage learners and foster growth	actively employs agile methods by effectively embedding them into the learning and teaching processes; uses collaboration, communication and innovation tools and employs innovative practices (e.g. using real-life challenges) to boost creative thinking and preparedness of learners	flexibility in creating agile and collaborative learning settings for students
Pioneer (Level C)	knows a variety of agile methods, use cases, digital technologies and pedagogical strategies that enable collaborative team work and user-centric prototyping in multidisciplinary learning environments	develops innovative pedagogical techniques that create an environment focused on supporting students in developing adaptive skills and working collaboratively and iteratively in various multidisciplinary team constellations (e.g. creates together with learners collaborative idea labs using emerging technologies such as virtual reality spaces)	entrepreneurial attitude and creative approach towards fostering agile and collaborative learning environment

Dealing with Health Information and Health Conditions related to Use of Digital Technologies

Dimension 7: Health and Wellbeing			
Subset 7.1 **Dealing with Health Information and Health Conditions related to the use of Digital Technologies** To be aware of the health impact of digital technologies and able to explore up to date health-related information. To monitor own and learners' situation and apply evaluated information for framing meaningful use of digital technologies in learning processes. (own suggestion)			
Explorer (Level A)	is aware that digital technologies can have an impact on both one's own and learners' health and knows how to access available health-related information	matches and evaluates one's own and learners' situation with available health-related information	commitment to foster one's own and learners' health, based on an open and unbiased approach; general interest in health impact implied by use of digital technologies
Expert (Level B)	understands special issues of health impact by digital technologies and knows about support schemes or points of contact	raises awareness of health impact by digital technologies; uses organisational, pedagogical and technological knowledge for implementation of measures preventing hazards and improving conditions of health impact by digital technologies enhances the awareness of the health impact of digital technologies; . Using organisational, pedagogical and technological knowledge for the implementation of measures for preventing hazards and improving conditions or minimising the health impact by of digital technologies.	eagerness to regard own and learners' health crucial for teaching and learning processes, based on responsible and explorative approach; critical monitoring of health information
Pioneer (Level C)	has comprehensive knowledge of health issues related to use of digital technologies as well as of methods to asses own or learners' situation with foresight.	anticipates future impact of digital technologies on own and learner's health condition and creates up to date health-related information	creative approach to perception, evaluation and further exploration of health-related impact of digital technologies; commitment to improve information base as well as health conditions of learners and self

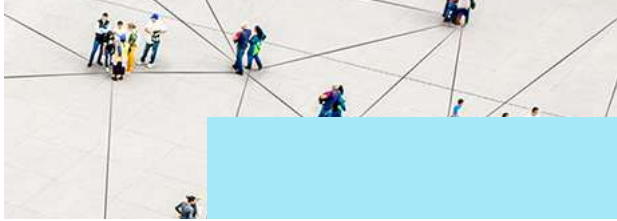
Interaction and Intervention



Subset 7.2
Interaction and Intervention
To support the healthy use of digital technology, and maintain a positive interaction with learners or peers regarding health issues. To offer or seek support if evidence requires. (our own suggestion)

Explorer (Level A)	knows basic criteria for intervention as well as first steps of assistance for learners/educators at risk of health issues related to use of digital technologies	maintains positive communication/interaction with learners, colleagues/peers regarding own or learners' health situation; transfers and applies criteria for meaningful intervention to actual situation/condition of learner(s) or self	open mindedness towards communication interaction regarding personal issues of self or learners; awareness of urgency for supporting learners or colleagues in dealing with health impact of digital technologies
Expert (Level B)	knows how to assess situation of learner(s) or self, based on scaled criteria for intervention and knows where to get support if evidence requires (colleagues/peers, third parties)	supports learners' healthy use of digital technology and offers personal support if evidence requires; seeks personal support from colleagues/peers for own issues, and gets third party consultancy, if evidence requires; actively assists learners or organises (instant) medical/psychological support; relates (digital) formats for communication/interaction regarding health impact of digital technologies; assesses situation of learner(s) or self, based on scaled criteria for intervention	sympathy and empathy for learners' personalities including physical and mental health issues; self-confidence for communicating own physical or mental health issues; readiness to actively assist and support learners or colleagues in issues related to health impacts of digital technologies
Pioneer (Level C)	continuously expands knowledge about strategies and methods of communication/interaction related to health impact of digital technologies; knows how to intervene personally in different situations of learners or educators with regard to health issues related to use of digital technologies	systematically integrates interaction for in situ rectification of own and learners' health condition/ situation; intervenes actively, appropriately and immediately with effective measures if evidence requires, or sensibly supports and complements third parties in their intervention for assisting learners with health issues deriving from use of digital technologies	supportive towards creating a positive and open minded culture of communication / interaction in the respective learning environment (including learners and educators); feeling responsibility for appropriate intervention in all areas of health related to use of digital technologies

Improvement of Conditions and Prevention



Subset 7.3
Improvement of Conditions and Prevention
To explore, discuss and implement measures and improvements regarding learners' and own health. To foster own and learner's ability to employ digital technologies for the sake of health. (our own suggestion)

Explorer (Level A)	knows about basic options of monitoring, controlling and handling the use of digital technologies with regard to health of learners or self	appraises how basic options of monitoring, controlling and handling the use of digital technologies can create better conditions when using these technologies.	prepared for discussing health situation/conditions and options for prevention/improvement
Expert (Level B)	knows how to evaluate and determine which organisational, pedagogical and technological options could minimize negative health impact by digital technologies	enhances awareness of the health impact of digital technologies; uses organisational, pedagogical and technological knowledge for the implementation of measures for preventing hazards and improving conditions or minimising the health impact by of digital technologies.	explorative attitude towards new concepts and methods with regard to reduce negative health impact of digital technologies; foster own and learners' ability to control and employ digital technologies for sake of health
Pioneer (Level C)	has knowledge of possible future conditions/situations as well as available state of art options; continuously explores suitable methods for future controlling and handling of situations; knows about potential of digital technologies for monitoring and control of health	anticipates and conceptualises future health support and create feasible solutions for improving the physical & mental health situation/conditions of learners and educators	strategic aim for sustainable prevention of hazards to users of digital technologies in education; ethical responsibility for generating a beneficial and healthy future prospecting that use of digital technology will increase

To learn more…

EdDiCo Learning Maturity Model for Digital Education Competence

- https://eddico.eu/outputs/wp2/

PDF Report on the EdDiCo Learning Maturity Model

- https://eddico.eu/wp-content/uploads/sites/24/2021/06/EdDiCo_Output_2_Report_Learning_Maturity_-Model_-Rev1_June2021___.pdf

Description of additional competences proposed by EdDiCo

- https://eddico.eu/wp-content/uploads/sites/24/2021/05/2020/content/Competence-meta-model-for-digital-educators.html#/

THANK YOU FOR YOUR ATTENTION

Jochen Ehrenreich
jochen.ehrenreich@heilbronn.dhbw.de

You can download this presentation at:
www.eddico.eu

EdDiCo
Supporting the Development of the Digital Competences of Educators

Co-funded by the Erasmus+ Programme of the European Union

Which of these competences you would suggest adding to the DigCompEdu Framework?

- Gamification
- (Micro-) Credentialization
- Recognition
- Agile working
- Health and wellbeing
- Being safe and legal online
- Active learning
- Artificial Intelligence