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Digitally competent teachers

Thematic Peer Group Report

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Digitally competent teachers:
towards a common understanding

This report is the result of the work carried out by the Thematic Peer Group "Digitally Competent Teachers in designing Quality Learning Environments" (hereafter the group)[1], as part of the Supporting European Universities in their Strategic Approaches to Digital Learning project (DIGI-HE) (see Annex 2). The aim of the group was to explore how to enable digitally competent teachers to design and implement quality digital learning, and how this can be supported by higher education institutions (HEIs).

Developing teachers' digital competences has risen to the top of HEIs' and policy makers' agendas following the COVID-19 pandemic. Fostering teachers' competences is now an indispensable condition for imagining, designing and organising teaching formats, creating and sustaining learning design, assessing student learning, and promoting student engagement, in the context of a rapidly expanding digital environment.

For this report, the group decided to adopt the term "**digitally supported**" instead of the commonly used "**digitally enhanced**" learning and teaching, to address the digital dimension of teaching activity in a more factual way. Indeed, the group considered that digitalisation of higher education may not systematically yield learning gains in any institutional context, especially if implementation challenges are not properly addressed.

The group acknowledged that **digital competences for teachers** have been abundantly and adequately addressed in the literature, hence it did not focus on further defining and classifying them. A scientifically sound European Digital Competence Framework for Educators (DigCompEdu) was published in 2017, and describes a set of 22 competences that teachers, at all levels of education, should master, in order to be fully digitally competent (see Fig. 1).[2] This framework may also address the current post-pandemic context of digital teaching in higher education institutions. HEIs across the European Higher Education Area (EHEA) can use it to facilitate international and inter-institutional approaches to digitally supported education.

Another important precondition for higher education institutions to be able to successfully adapt to digitalisation is that they offer students adequate training and learning activities so that they can acquire learning-oriented digital competences. However, this important aspect of digitally supported education deserves another, considerable piece of work, and was therefore considered beyond the scope of this group's work.

The group mainly focused on **the development** of teachers' digital competences, and **how higher education institutions (should) address these needs in their strategies and practices**.

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1   The contents of this report were first presented during a focus group at the 2023 European Learning & Teaching Forum in Bilbao, Spain, on 2-3 February. The group would like to thank the focus group participants for their feedback and further input.

2   Redecker, C., 2017, *European Framework for the Digital Competence of Educators: DigCompEdu*. Punie, Y. (ed). (Luxembourg, Publications Office of the European Union). Consulted on https://joint-research-centre.ec.europa.eu/digcompedu_en (10/12/2022).
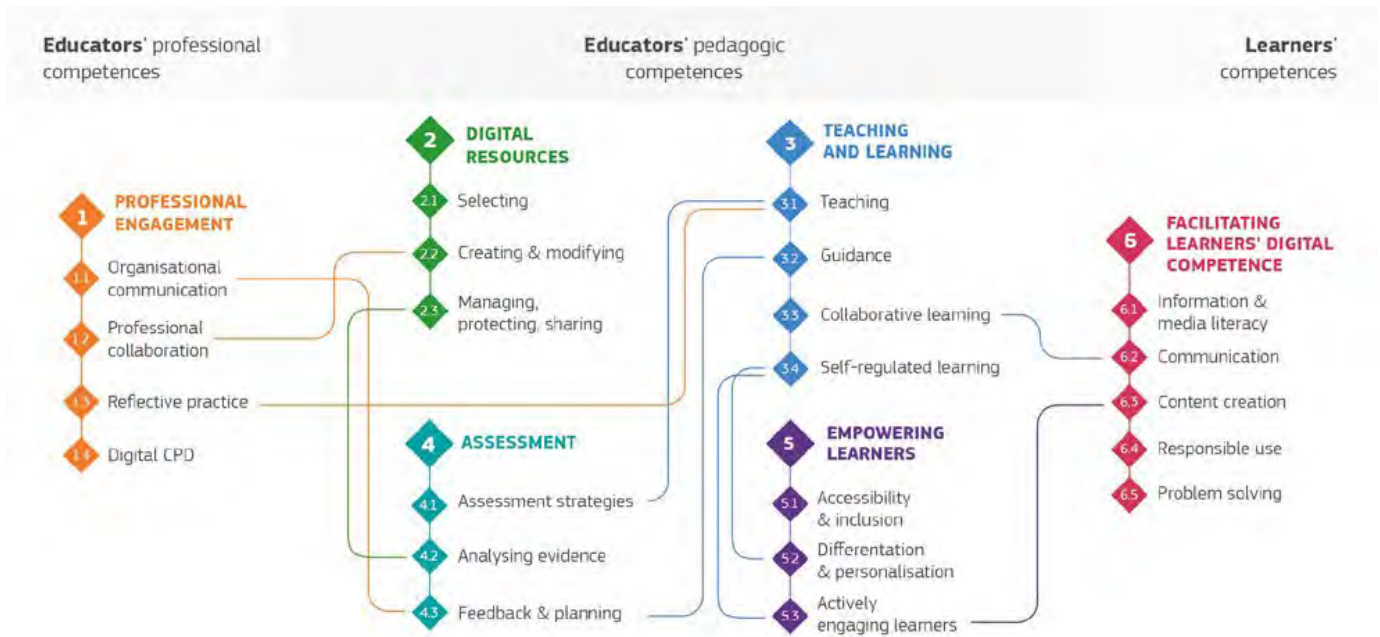
FIGURE 1: THE DIGCOMPEDU FRAMEWORK

Teachers need digital competences to be able to design learning contents in a digital environment; sometimes they even need to design that digital environment. This point relates to learning and teaching **delivery modes**, and lessons learnt from the radical, overnight shift to emergency remote teaching in Spring 2020. Teachers and institutions have become more aware of how interaction with students partly depends on the digital tools used, and the choice of such tools influences the way teachers design their courses. Teaching in a blended mode will not mean the same as, for instance, teaching fully online. The group observed that HEIs, their members (leadership, staff, students), and even countries, are sometimes not clear or coherent about the way they define the different teaching delivery modes (such as face-to-face, online, blended, hybrid, or other modes). This may create misunderstandings on what the term "digital learning and teaching" covers, and what it entails to teach using a certain delivery mode (see Annex 1 for a proposed taxonomy).

Yet, digitally supported learning and teaching is not only about delivery modes: it is also about an emerging **ecosystem that integrates a digital dimension in all strategic and operational aspects of learning and teaching.** For this reason, digital competences cannot be considered as an isolated element, separately from the question of teachers' competence development in general, including their pedagogical competences to teach.

The group also considered that the development of teachers' digital competences should be based on a **student-centred learning paradigm**, using a learning outcome-based approach to teaching. In recent decades in the European Higher Education Area (EHEA), the Bologna Process has advocated for such a paradigm. Student-centred learning implies that teaching competences should be developed to serve student-centredness and student partnership.

Finally, teachers' digital competences need to improve in parallel with a step-change in **the value being placed on teaching,** together with enhanced recognition and reward for teaching. The extra time and effort needed to innovate, design, improve and maintain teaching that includes a digital dimension should be considered when defining teachers' academic workload. Academic practice still lacks effective professional recognition for teaching activities.

Challenges identified

The group identified three questions to explore the challenges that higher education institutions encounter in developing digital competences for teachers, and for teachers to contribute to a digitally supported learning environment:

◆ What training and support are available to help teachers teach digitally? How can teachers engage with them, and how to sustain their motivation to develop digital competences?

◆ What are the digital tools and resources that an institution offers to teachers?

◆ How can institutions support and improve digital teaching and learning in a sustainable way?

Challenge #1

Professional engagement - Digital competences (DC) development

◆ Teachers have different needs and starting points when it comes to addressing digitally supported teaching in their classrooms. It can be difficult to build from initial DC training to continuous training and development, as trajectories to digital competences can vary, and need to respond to teachers' needs throughout their academic career. The training offer need to include different entry points, so to cater to individuals with different entry levels and learning rhythms. Training and professional development also need to address digital competences in general (from how to use digital tools, to how to develop educational materials using digital tools), while also targeting specific issues, such as online and blended learning student assessment (which remains an issue at many HEIs). This is why one of the main difficulties identified relates to **accommodating different needs and preferences when designing DC training** for teachers, and the ways to set up and implement the right institutional framework, with a scalable model, aligned with the institutional vision and long-term strategy. This also poses the question of how to define different levels of mastery or proficiency: should HEIs aim to achieve a baseline level for all their teachers? How should they define the "next" levels?

◆ The issue of sustaining academics' **motivation towards teaching activities** should not be underestimated. Academics and teaching staff often lack the time for professional pedagogical development: work overload is a real issue, and is often coupled with a lack of recognition for teaching and teaching development activities. Teachers also need to feel ownership for changes and challenges to their usual practice: compulsory training or demands to adopt unfamiliar delivery modes may lead to the feeling that changes are being imposed, which may result in resistance.

◆ Developing digitally supported teaching has a significant impact on staff workload, and the rapid obsolescence of digital resources also requires adaptation and changes to teaching approaches. In addition to the usual learning design activities required in a face-to-face setting, digitally supported teaching implies selecting and mastering the appropriate digital tools, rethinking the pedagogical approach to include digital content and resources, training for digital teaching competences, implementing changed teaching methods in the courses, adapting to changing digital tools, platforms and resources, etc. Many HEIs may find it challenging to **reform their staff workload rules, and teaching and learning support services** to facilitate these developments.

Challenge #2

Digital infrastructures, tools and resources

- Developing teachers' digital competences goes hand in hand with **adapting learning and teaching spaces**, including infrastructures, equipment, and the level of IT available on campus. Designing and implementing such integrated spaces implies that institutions need to make strategic choices: which (physical) spaces need to be redesigned, which tools have to be purchased, which are the most suitable platforms to use, etc. At times, these strategic choices may take place without proper consideration of how teachers need to be trained and supported to allow them to use these digital tools in a digitally supported environment.

- A quality learning environment means teachers can draw on a series of digital tools and resources when these are relevant for their courses and learning assessment methods. While some HEIs still need to build up or complete their digital environment, others face the dilemma of a "tool overload". There are currently too many and too diverse tools, resources and digital teaching platforms, and teachers may wish to use their own preferred options independently of other teachers' choices (which could lead to a tools overload for students). HEIs face the challenge of i**dentifying the most suitable tools and teaching approaches** for each discipline, and for various class types or sizes.

Challenge #3

Implementation and evidence for student-centred, quality-oriented, sustainable digital learning and teaching

- Teachers need to assess and consider their students' digital competences when it comes to learning design and choosing their teaching approaches. However, more evidence of **students' digital competences in a learning context** may be needed, to go beyond the usual assumption that students are agile, digital natives. Students may also be digitally agile yet fail to understand how institutions expect them to use their digital competences to learn.

- **Assessing the real impact of developing teachers' digital competences on the quality of teaching, and on student success** is a complex task. HEIs have standard quality assurance and management processes to help identify and define qualitative and quantitative indicators for monitoring the continuous enhancement of student learning and experience. But it is difficult to filter out the specific role of the competences needed for digitally supported learning, in an environment in which digitalisation is only one part of a larger ecosystem, with many different variables. HEIs may struggle to find how and to what extent training for digital competences has changed the quality of learning and teaching, and what indicators and processes they need to develop, in order to assess the efficiency and effectiveness of such training and support measures.

- HEIs need evidence to make informed decisions about implementing digitally supported learning and teaching.[3] Gaining better understanding of how digitally supported learning and teaching sustainably improve student learning and experience **should be approached through an evidence-informed analysis process**. This entails finding better, context-sensitive use of the results from QA processes, learning analytics data, research literature, staff and student survey feedback, etc. However, this kind of approach is not common or culturally evident for some HEIs: academic leaders, teaching staff and administrative services may still need to be convinced to engage with such an approach.

The group noted a strong interconnection between the three challenges of professional development, digital infrastructure, and evidence-based implementation. This confirmed that digital competences need to be considered with an **environment/ecosystem, holistic approach** – integrating organisational culture(s), leadership roles, strategy, policy and implementation.

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3   A 2019 EUA Thematic Peer Group worked on the topic of evidence-based learning and teaching: https://eua.eu/resources/publications/922:evidence-based-approaches-to-learning-and-teaching-thematic-peer-group-report.html (consulted 10/12/2022).

Recommendations

The group proposes the following recommendations for HEIs to efficiently address the development of teachers' digital competences:

Recommendation #1

Digital competences as part of an institution's integrated innovation vision

Developing teachers' digital competences and agility should be part of a global culture of innovation at the institution. Higher education institutions need to embrace the digital learning environment, and enhance their ability to turn innovation into sustainable practices.

- Openness for, and the emphasis on innovation capacity and capabilities should be clearly stated in, and ensured through an institutional vision, strategy and related policies – that specifies the roles and responsibilities that will manage change as and when needed. The ability to address new situations needs to be a priority. This also means a long(er)-term approach to digital transformation, in which the staff's digital competences are a precondition for implementation.

- Finding common definitions and a shared understanding of digitally supported learning and teaching approaches across the institution is vital for further addressing the support and framework conditions needed to implement or enhance the wide variety and scale of digital teaching delivery modes. The group has therefore proposed a taxonomy (Annex 1). This could serve as a starting point for collectively reflecting on the institution's own practices and related needs. Each teaching delivery mode may require teachers to activate specific digital competences. An institutional mapping of delivery modes and the corresponding digital competence needs may be useful to improve the digital support and training HEIs offer to teachers – especially in large and multidisciplinary universities, where there is a diversity of approaches.

Recommendation #2

Digital competences in an integrated, institutional environment

HEIs need to create an integrated environment for digitally supported education, in which teachers' digital competences are a cornerstone, and where teachers can learn and use these competences in a seamless way.

- This kind of integrated environment can only be successfully implemented with the active involvement of the entire university community. In order to achieve this, HEIs need to unite all their stakeholders around clearly identified agendas, goals, roles and responsibilities: institutional and faculty leaders (rectors, presidents, deans, etc.), educational leaders (directors of study programmes, etc.), individual teachers, support staff (educational services, technical and administrative services, non-academic staff), and students. This is important to ensure that digital competence development is user-oriented and fit for teachers in their classroom context. Non-academic staff, such as faculty and support services, also contribute to digitally supported learning and teaching, and teachers and students should have a clear understanding of their role and the support they can provide in helping to develop digital competences.

- Shifting sustainably to digitally supported education involves a significant increase or reallocation of resources (manpower, technology, infrastructure). This is only possible through a systemic approach, embedded in a long-term institutional strategy, with leadership engagement. The process also requires adequate institutional autonomy, in each national context.

- Learning and teaching centres (or units) are essential for supporting institutional leaders and teaching staff. For example, they can identify the most appropriate digital infrastructures (classrooms design and equipment, learning centres, etc.), tools (platforms, hardware and software), and services (learning and teaching support services, library services, communication channels) for the digital transition, to welcome new proposals and initiatives, to offer digital competences training, and to estimate the staff and financial resources needed. L&T centres must be recognised and properly funded, and their mission stated in the institution's long-term strategy.

- Institutions should also aim to define clear roles when supporting for digital competences. Several hubs may support digital competences development: learning and teaching centres, information technology centres or units, institutional and faculty-based data analysis and quality management units, etc. These centres need to have complementary roles, or an integrated structure, and competing, or overlapping structures are to be avoided.

- The institutional context for digital transformation plays a role in how HEIs develop teachers' digital competences. In order to evolve in a safe and inclusive digital environment, teachers need a coherent strategy that addresses security, privacy and legal issues (incl. ownership of tools and learning contents that they develop). Such a strategy should not merely address technical issues: it should aim to support and recognise efforts made in digitally supported teaching. In this regard, it should be considered as important as, and complementary to, strategies or policies that HEIs may have on open access publications for research.

⊙ EXAMPLE OF PRACTICE

A new academic-led framework for supporting digital learning across a large and multidisciplinary institution

The **University of Nottingham (United Kingdom)** designed a new institutional framework for enhancing digital learning across the institution, based on the university's Vision for Digitally Enhanced Teaching and Learning and Laurillard's Conversational Framework.[4] The framework supports a consistent approach in all 5 faculties, whilst also catering for diverse subject-specific requirements and needs, following a scalable model. It is supported by a substantive set of staff resources and training in online and blended teaching, led by Digital Learning Directors from each of the 5 faculties, in partnership with Learning Technologies, Information Services and other professional services colleagues. The resources address varied teaching activities and class sizes. The framework supported a swift and successful move to online teaching during the pandemic, and the move to new blended delivery approaches. Staff engagement with resources and training was high in all faculties.

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4 Laurillard, D., 2000, 'A conversational framework for individual learning applied to the 'Learning Organisation' and the 'Learning Society'' in *Systems Research and Behavioral Science*, 16/2, pp. 113-122.

> **⊘ EXAMPLE OF PRACTICE**
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> **Cyberlearn: an institution-wide strategy at the University of Applied Sciences and Arts of Western Switzerland (HES-SO)**
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> At the HES-SO, a 2030 Vision for digitally supported education includes an e-learning ecosystem that relies on 4 pillars: (a) integrated student pathways (with flexible learning paths, micro-learning units, and identification/valorisation of the acquired competences), (b) an evolutionary system (including an open and evolving catalogue of digital tools, and a formal decision-making process for including or not new tools), (c) a community of practice (incl. a cartography of digital competences, a network for observing and adopting tech, and activating/mobilising competences), and (d) consolidated governance (including an inclusive and participatory approach).

> **⊘ EXAMPLE OF PRACTICE**
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> **A jointly offered "suite of services" at the Central European University (Austria)**
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> From initially working separately on catering to teaching staff needs, the Centre for Teaching and Learning and the IT department moved to jointly offer a comprehensive "suite of services" to support the specific digital needs of teaching staff. For instance, in autumn 2021 they offered a hybrid teacher training package, including a joint workshop, individual consultations, classroom tours, and practice teaching sessions. Creating this "suite of services" helped avoid knowledge silos at the university, shared workloads, pooled expertise, and gave teachers with different needs appropriate levels of support. The initiative also helped promote the training and support offered across the institution, and clarified the support offered by each service for teachers. The suite achieved high levels of teaching staff interest.

Recommendation #3

Digital competences as a specific part of teaching activity

HEIs need to support their staff in many ways when they decide to deploy digitally supported teaching, including through recognition of teaching achievement in academic careers.

- Digital competences are part of the general, pedagogical competences that teachers are expected to have. Acquiring competences to support digital learning requires both initial and continuous teacher training. Professional development, including training, should respond to diverse needs – to support both baseline competence and teaching innovation. Supporting and nurturing continuous development and a learner-centred mindset are important. When establishing training programmes for digital competences, it is useful to regularly assess teachers' needs and continuously adjust the training available based on their feedback. Teachers may also need quick, targeted solutions to address immediate problems. The flexibility and granularity of the training offer makes continuous professional development relevant to their needs.

- Changing delivery modes and integrating digital into teaching require time and resources. It is an investment, not only when initially conceiving and implementing the new approach, but also when maintaining and adapting the delivery mode to rapidly evolving digital tools and resources. Shifting towards digitally supported teaching and, while doing so, innovating teaching, has a significative impact on academic workloads. Staff need time and support to experiment. This should be recognised, for instance through academic assessment and rewards, and taken into account for career progression.

⊘ **EXAMPLE OF PRACTICE**
Training and pedagogical development for teachers

For many teachers, engaging learners or using different teaching approaches is still a challenge, especially if delivering an online or hybrid course is a new experience. At the I**zmir University of Economics (Türkiye)**, the Teaching and Learning Centre runs a professional development course supported by university leadership. It comprises 12 modules with asynchronous content, 8 assessments, and 7 synchronous sessions of 2 hours each. After completing the course, teachers receive a digital badge. So far, the Centre has trained 3 cohorts, or a total of 85 teachers. Participants' engagement and progress were measured through assessments and learning analytics (data from the Learning Management System). Comparison of pre- and post-training survey results suggests positive change.

Similar training is available at many institutions. The **Central European University (Austria)**, for instance, offers a Certificate in Teaching in Higher Education for doctoral candidates, which covers digital competences in several electives ("online, hybrid and blended teaching"; "podcasting for teaching"; "game-based learning") and the creation of a capstone teaching e-portfolio. Some 165 certificates have been awarded since 2013. CEU launched a new curriculum for this certificate in autumn 2022 (with new and revised courses addressing digital competences), and is currently piloting a similar certificate for post-doctoral fellows and teaching staff.

The **University of Turin (Italy)** also introduced a module on digital education in their IRIDI staff development programme. During this programme, teachers were given support to help them implement their new skills. The university noted: a general growth in the use of ICT in education, improved coping with the switch to online learning during the pandemic, teachers continuing to explore new teaching ideas after following the programme, and many teachers requesting a new digitally supported teaching training programme. The IRIDI programme has opened appetites and interest in testing and implementing practical digital teaching solutions.

Vytautas Magnus University (Lithuania) developed its "Digitally Competent Teachers in Higher Education" continued professional development programme based on the DigiCompEdu framework. The programme offers 6 modules representing 4 ECTS each: (1) Professional engagement and development; (2) Creation and adaptation of digital resources; (3) Teaching and learning in a digital environment; (4) Assessment of learning outcomes; (5) Empowering learners; (6) Development of learners' digital competences. This programme is also open to secondary school teachers. Following the university's participation in a project[5] revising the DigiCompEdu framework, the programme was revised and a new module on the health impact of digital technologies was introduced.

Since 2019 and in collaboration with two other Belgian HEIs, the **Université libre de Bruxelles (Belgium)** offers a 15 ECTS Certificate: "Teaching with Digital Tools in Higher Education (ESNU). This hybrid programme includes a mix of synchronous and asynchronous, on-site and distance learning activities. Only 15 people are admitted to the programme per academic year. Teachers, teaching assistants and educational developers from several Belgian HEIs take part in the programme, including lifelong learners. Current feedback is very positive, and some deans actively promote their early-career academics' participation. A new curriculum is planned for 2023-2024, to catch the experience of a "post-pandemic new normal".

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5 "Supporting the Development of the Digital Competences of Educators" (EdDico), https://eddico.eu/. The project recommended additional competences to be added (https://eddico.eu/wp-content/uploads/sites/24/2022/01/content/learning-maturity-model-for-digital-education-competence.html#/).

Recommendation #4

Digital competences for student-centred learning

It is essential to adopt a student-centred approach when developing teachers' digital competences.

- The digital dimension in teaching should be reflected in the constructive alignment between what students should learn, how they learn it, and how they are assessed.[6] Different competences are used in, for example, learning design and assessment, and it is important not to overlook any aspect of constructive alignment, for successful student-centred learning.

- Digitally competent teachers should be able to share responsibility with students. Student participation supports innovation and helps develop teachers' digital competences. Students could serve as co-creators for designing digitally supported learning, and support teachers in this regard. Innovative pedagogical practices in which students produce content should be valued.

- Further developing digital competences helps the institution to achieve flexible and inclusive student journeys. In the post-pandemic era and considering the United Nations' Sustainable Development Goals,[7] HEI support may induce increasing "flexibility" (up to "personalisation") of student journeys and enhance inclusivity for some members of the community. Ultimately, such HEI commitment will contribute to widen access to higher education.

> **⊘ EXAMPLE OF PRACTICE**
> A digital platform for both student and teacher training
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> The **Lusofona University (Portugal)** created a digital platform of distance learning resources, for both students and teachers, including a digital academy. As a result, the university observed increased use of its learning management system (LMS), and students becoming more agile in navigating a variety of digitally supported learning environments, alongside teachers making increased use of asynchronous activities.

Recommendation #5

Digital competences to boost communities of practice in teaching

Moving to more digitally supported teaching in a post-pandemic period should be an opportunity for HEIs to build on the collaboration initiatives born under emergency remote circumstances in 2020. Back then, in addition to well-established co-teaching practices, teacher communities emerged to face common digital challenges and develop digital course content at HEIs. Encouraging collaborative and practice-sharing initiatives will help institutions and academics tackle the digital transition in teaching.

- Digital teaching community building can be initiated by the institution, faculties and departments, and individual teachers themselves. This complementary mix of grassroots and top leadership taking the initiative is valuable, as it reinforces the importance of peer-learning and community approaches.

- Institutional frameworks for digital teaching and learning would enable inter-faculty sharing and experience transfer, which can be very beneficial. But being discipline-agnostic, they should also leave room for faculties to adapt to their disciplines, needs and context.

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6 Biggs, J. and Tang, C., 2011, *Teaching for Quality Learning and University* (4th edition) (Buckingham, Open University Press/McGraw Hill). A 2021 Thematic Peer Group issued a report on curriculum and assessment in a digital environment: https://eua.eu/resources/publications/1009:learning-teaching-thematic-peer-groups-2021.html.

7 https://sdgs.un.org/goals, and especially SDG 4 on Quality education, SDG 5 on Gender equality, and SDG 10 on Reduced inequalities.

- Inter-institutional discussions and exchanges (national and international) are useful for benchmarking, best practice sharing, and networking by key university members. European university alliances could serve as a place for developing such inter-institutional (academic, pedagogical and technical) communities dealing with digital learning and teaching. A range of activities can make this collaboration more concrete: developing and sharing training materials, organising common mini-courses, innovation days, networking activities, etc.

> ⊙ **EXAMPLE OF PRACTICE**
> Creating community to share digital learning practice
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> At the **University of Nottingham (United Kingdom)**, a new online community of practice provides a forum for sharing good practice via a series of regular events that are easy to join, and through which staff can raise their questions about digital learning for other staff to answer. It is a welcoming, inclusive, and empowering community to encourage professional engagement and (peer-)learning. It allows staff to engage with new tools and approaches, by seeing how their peers in related subject areas have used them. It is also a quick way to learn about new practice from peers, including the opportunity to customise learning activities created by others. It uses an evidence-informed approach, responding to staff requests for more opportunities to peer-learn. A large number of staff have voluntarily engaged with this activity, and recordings of presentations are available. Some 71% of those who answered a survey assessing the activity reported having included ideas and examples from the community in their teaching. In particular, this community has helped increase staff confidence, and created a place where staff can share their experience without reservations.

Recommendation #6

Digital competences as part of an evidence-informed approach to institutional and individual development

HEIs should consider themselves living labs for digitally supported learning and teaching. This requires an evidence-informed approach, i.e. an institution-wide, context-sensitive approach to education innovation, informed by research into education and teacher experiences.

- Pilot projects and initiatives can show a way forward, and be useful for testing digitally-supported education. They should be evidence-informed, and supported by internal QA following a Plan-Do-Check-Act or Adjust cycle), with due attention to opportunities for practice-transfer/mainstreaming.

- Finding out what works and what does not is part of an evidence-informed decision-making process. Quantitative and qualitative indicators and assessment methods for innovative projects have to be defined, adopted and applied. Project monitoring should be adapted to specific contexts. This needs to be carefully balanced with risk taking and, potentially, failure as part of experimentation and an evidence-based culture. The direct impact of teachers' training on student learning may be difficult to assess; however, monitoring could focus on finding out how and to what extent teachers were able to transfer what they have learnt during their trainings into their teaching.

- Digitally supported teaching needs to be research-based and theoretically grounded in literature and scholarship of teaching and learning. Digital tools can contribute to various returns and quality assurance-related demands, including with GDPR-compliant learning analytics, and allow teachers and institutional leadership to better understand their students and resource use.

- While teachers' experiences and insights would feed into the evidence base for developing digitally supported education, an evidence-informed approach will also provide teachers and institutions with a basis for reflecting on teaching, and competence needs.

> ⊘ **EXAMPLE OF PRACTICE**
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> Training teachers and having them track their progress
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> At the **Open University of Catalonia (*Universitat Oberta de Catalunya – UOC*, Spain**), "Dive into UOC" is an online training that includes self-learning, and prepares teachers for online education, including activities structured to achieve a sense of progression:
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> - Introduction to online teaching at UOC: exploring and consulting resources, self-assessment, and participation in a virtual debate
> - Preparing to design and plan the teaching activity
> - Getting started in online teaching, and developing teaching activity. Teachers can use various resources to explore the virtual classroom.
> - Monitoring one's own progress, with a focus on the evaluation and improvement of the teaching activity, based on the evaluation of student satisfaction data and student progress.
>
> This training is combined with the digital competences training provided to teachers before they start at UOC (pre-service training), which emphasises the collaborative dimension of online teaching (managing collaborative interactions and online teamwork, collaborative creation in the classroom, collaborative teaching).

Conclusions

The group addressed the development of digital competences for teachers through the lens of an integrated, institutional environment approach. Considerations regarding the future and ever-evolving nature of this theme surfaced during the drafting of its recommendations.

Firstly, the topic of digital competences has emerged at a time of general frustration with hybrid and blended learning, in the post-pandemic context. A "new normal" learning and teaching strategy may lead to insecurity and deep concerns at HEIs, which are still struggling to find the right balance between onsite and online modes, and the range of options in-between. In the post-pandemic world, students and teachers may not wish to return systematically to onsite learning, or to switch entirely to online course delivery. The added value and learning gains of the various digitally supported teaching approaches and delivery modes also need to be clearly demonstrated. HEIs need to be forward-looking and adapt their education offer, while advocating their value.

Secondly, the importance of training to acquiring or refreshing teaching competences confirms that HEIs would gain from nourishing a culture of lifelong learning and continuous professional development, beyond ad hoc support and crisis management. Many HEIs offered short training sessions or quick-fix courses on digital competences for teachers during the pandemic – and this proved to be beneficial and much needed in the emergency remote teaching situation. But teachers must continue to feel the benefit of such training and support, beyond crisis management situations, and with a longer, more strategic approach to competence development.

Finally, the rapidly evolving nature of digital tools and digitally supported education implies that today's recommendations will probably need to evolve too. HEIs demonstrated a formidable ability to adapt to digital novelty during the pandemic, and this accelerated digital teaching, resulted in evolved delivery modes and the creation of new terms (such as "remote learning", "offline learning" or "offline assessment") for new realities. This need to evolve with the digital transformation will not end. HEIs' ability to adapt and develop new approaches is an important asset for innovation-driven societies.

Annexes

ANNEX 1: A TAXONOMY OF DIGITALLY SUPPORTED DELIVERY MODES.

The group established a Task Force[8] to address the challenge of diverging definitions of the meaning of "digital" in learning and teaching. The proposed taxonomy does not pretend to be fully applicable in any context: there can be different ways to define delivery modes in literature, practice, etc. The Task Force recommended emphasising converging features, and underlined the following points:

◆ All dimensions need to be taken into account to devise digitally supported teaching strategies that are adapted to the national, institutional and/or programme context.

◆ It can also sometimes be difficult to make clear distinctions between the different modes used, in the continuum ranging from traditional (exclusively) face-to-face to (fully) online courses. A combination of different modes are often used.

◆ Each of the delivery modes can be used at study programme level, course level, or as a single class session/period of lecture. This means that they will also mix in student experiences: students can take a course with a few face-to-face sessions, followed by blended classes, or follow a study programme that combines several delivery modes. This implies that teachers are also, at least, aware of what happens in other courses (as they analyse their students' needs and usual practices). It implies collaboration with the other teachers involved in the programme (creating a community of practice).

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8   The Task Force was formed by: Philippe Emplit (chair), Manuela Repetto, Airina Volungevičienė, Montse Guitert and Teresa Romeu Fontanillas.

Delivery modes / Dimensions	Face to Face (F2F)	Online	Blended	Hybrid	HyFlex
Place					
Physically onsite, virtually online, or within a continuum between both	Teachers and all students onsite in class	Teachers and all students online in separate locations	Teachers and all students onsite in class (for synchronous interactions), and online at other times (for asynchronous interactions)	Teacher and some students onsite in class, with other students online in separate locations	Teachers and students use multimodal interactions: F2F, synchronous online and asynchronous offline.
	F2F lectures	Online lectures (recorded)		F2F lectures	
Type(s) of interaction (Who is present?)	Additional digital activities/contents to complement (as needed)	Individual/ collaborative activities	Onsite and online activities are clearly identified and organised by the institution, on a clear schedule.	Collaborative learning among students online and among students in the class	Students can choose onsite or online activities.
	80-90%[9] onsite activities	90-100% online activities	Seamlessly integrated online and in-person learning activities 30-80% online activities	50-75% mandatory onsite activities	% onsite activities is student's choice (and may vary during the term)
Time					
Synchronous *Asynchronous*	Mainly synchronous	Mainly synchronous	Balanced between synchronous and asynchronous	Mainly synchronous This can be: Synchronous hybrid Asynchronous hybrid Mixed hybrid	In line with the students' choice: synchronous or asynchronous
Digital equipment involved					
	Learning management system (LMS)	LMS Videoconferencing system	LMS	LMS Videoconferencing system	LMS Videoconferencing system
References					
	(Lapke and Lapke, 2022) (Xianghan & Stern, 2022)	(Moore *et al.*, 2011) (Siemens *et al.*, 2015)	(Alammary, 2019) (Armellini & Padilla, 2021) (Bruschi *et al.*, 2021) (Siemens *et al.*, 2015)	(Beatty, 2019) (Gil *et al.*, 2022) (Kukulska-Hulme, A. *et al.*, 2022)	(Beatty, 2019)

9   To be broadly understood as including contact hours and student work. Of course, the onsite/online share may vary depending on the institutional context. The percentages provide an idea of ratios.

How can teachers reflect on their use of delivery modes?

The group found important how teaching with digital components changes depending on the delivery and assessment modes used. Developing digital competences for teachers implies that teachers constantly consider the pedagogical/teaching models associated with the chosen delivery modes, and ask themselves:

- How does one chosen delivery mode change the way I teach?
- How do I design the course/class in line with the expected learning objectives and outcomes?
- How do I deliver the contents of the course/class using the chosen delivery mode?
- How do I organise learning activities?
- How do I organise assessments?
- How do I add value through digitally supported teaching, improving the course contents, and the quality of student learning? What is my students' learning gain?
- How do I, and how does my institution, assess the added value of digitally supported teaching in terms of learning outcomes?

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ANNEX 2: EUA LEARNING & TEACHING THEMATIC PEER GROUPS

As part of its work on learning and teaching, EUA engages with leadership and professional staff overseeing or implementing learning and teaching activities at the institutional level. Coordinating the work of a set of Thematic Peer Groups is a key aspect of EUA's work in connecting with university communities. The groups consist of university representatives selected through a call for participation; the core of their remit is to:

- discuss and explore practices and lessons learnt in organising and implementing learning and teaching in European universities;
- contribute to the enhancement of learning and teaching by identifying key recommendations on the selected theme.

The 2022 Thematic Peer Groups were organised as part of the DIGI-HE project with a focus on digitally enhanced learning and teaching (DELT). The Thematic Peer Groups, active from March 2022 until February 2023, facilitated discussion among group members through their engagement in peer-learning exercises and exchange of experience. Similarly, the group members contributed their expertise to develop EUA's input in policy debates, such as the Bologna Process.

Each group was chaired by a member representative from one university and supported by a coordinator from within the EUA Secretariat. The groups met in several meetings organised throughout 2022, and identified the major issues related to all three themes – needs and wellbeing of students and staff, collaborative teaching practices, and digitally competent teachers. In addition to online meetings, the group "Digitally Competent Teachers" organised one in-person meeting, which was hosted on 12-13 September 2022 by the Lusofona University in Lisbon.

Each group discussed the key challenges related to its respective theme, explored ways to overcome challenges through innovative practices and approaches, and drew conclusions regarding institutional policies and processes that would support the enhancement of learning and teaching. In addition, the groups served as a platform for members to put forward and discuss other issues relevant to the theme. Members of the groups also presented the outcomes at the 2023 European Learning & Teaching Forum, with the objective of obtaining feedback on the groups' conclusions and recommendations.

Composition of the Thematic Peer Group 'Digitally Competent Teachers in designing Quality Learning Environments'
(starting with the group chair, then proceeding by alphabetical order of the country name):

- **Université libre de Bruxelles (Belgium)**
  - Philippe Emplit, former Vice-Rector for Teaching & Learning (chair)

- **Central European University (Austria)**
  - Michael Kozakowski, Director of the Centre for Teaching and Learning
  - Kaitlin Lucas, Academic Technologist, Centre for Teaching and Learning
  - Elizaveta Berezina, PhD candidate in History

- **University of Turin (Italy)**
  - Barbara Bruschi, Vice-Rector for Education
  - Manuela Repetto, Researcher

- **Vytautas Magnus University (Lithuania)**
  - Airina Volungevičienė, Director of the Innovative Studies Institute
  - Estela Daukšienė, Deputy Director of the Innovative Studies Institute
  - Daiva Urmoniene, Head of the "Digitally Competent Teachers" CPD programme

- **Lusofona University (Portugal)**
  - Elsa Estela, Executive Director of Interdisciplinary Research Centre for Education and Development
  - Carla Galego, Assistant Professor

- **Ovidius University of Constanta (Romania)**
  - Mihai Gîrțu, Vice-Rector for Research and Innovation
  - Daniela Caprioara, Director of the Department for Teacher Training

- **Open University of Catalonia (Spain)**
  - Montse Guitert, Coordinator of Edul@b research group
  - Teresa Romeu Fontanillas, Associate Professor

- **Lund University (Sweden)**
  - Christina Gummesson, Associate Professor

- **University of Applied Sciences and Arts of Western Switzerland (HES-SO)**
  - Thomas Steiner, Head of Cyberlearn, HES-SO e-learning centre

- **Izmir University of Economics (Türkiye)**
  - Esin Çağlayan, Director of Teaching and Learning Centre

- **University of Nottingham (United Kingdom)**
  - Cristina De Matteis, Digital Learning Director (Faculty of Science), Associate Professor

- **Coordinator:** Thérèse Zhang, Deputy Director for Higher Education Policy, European University Association (EUA)

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The European University Association (EUA) is the representative organisation of universities and national rectors' conferences in 48 European countries. EUA plays a crucial role in the Bologna Process and in influencing EU policies on higher education, research and innovation. Thanks to its interaction with a range of other European and international organisations, EUA ensures that the voice of European universities is heard wherever decisions are being taken that will impact their activities.

The Association provides unique expertise in higher education and research as well as a forum for exchange of ideas and good practice among universities. The results of EUA's work are made available to members and stakeholders through conferences, seminars, websites and publications.

This paper, prepared within the framework of the EUA-led DIGI-HE project, is one of a series of reports specifically focused on learning and teaching. It is designed to gather the knowledge and experiences of experts on the topic from across Europe. EUA's activities in learning and teaching aim at enhancing the quality and relevance of higher education provision, underline the importance of learning and teaching as a core mission and advocate for learning and teaching activities to be geared towards student learning and success.