

Digital Literacy Agenda

Unifying the perspectives of European higher education institutions



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A COMMON DIGITAL AGENDA AND FRAMEWORK FOR IGNITION

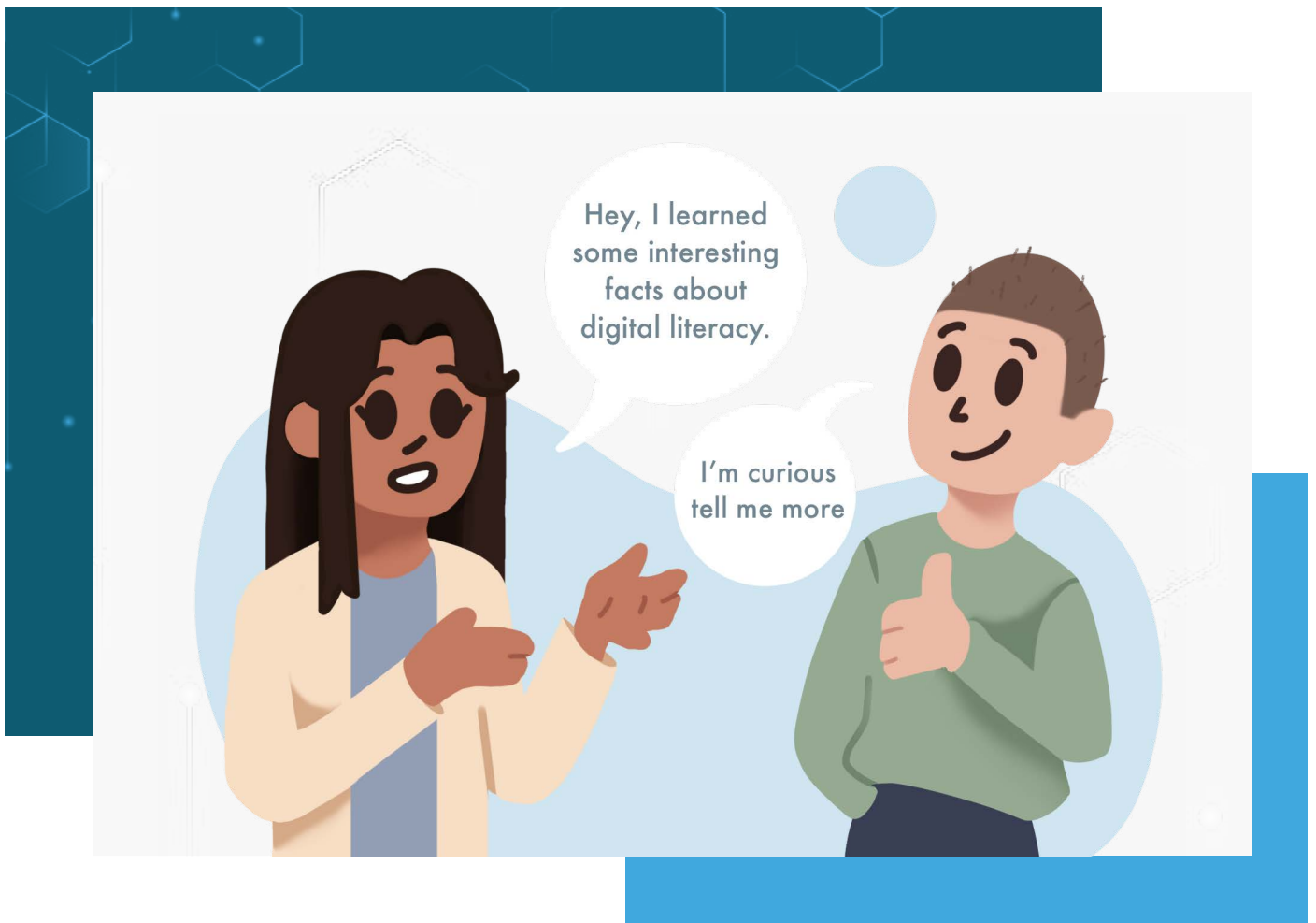
1. INTRODUCTION

As we embark on the dawn of a new era in higher education, the need for a comprehensive digital strategy has never been more critical. The “Common Digital Agenda and Framework for IGNITION,” dated March 10, 2023, emerges as a beacon in this transformative journey. This white paper presents the collective insights and strategic visions of the Erasmus-funded Cooperation Partnership “Digital Literacy Coalition for Inclusion, Collaboration, and Innovation in Higher Education Institutions (HEIs),” known as IGNITION. This three-year endeavour, initiated in May 2022, unites four esteemed institutions: Hanze University of Applied Science (The Netherlands), Hochschule Bremen (Germany), South-East Technological University (Ireland), and Bragança Polytechnic University (Portugal). Together, these partners embark on a mission to amplify digital literacy among faculty staff, students, and external stakeholders through innovative educational paradigms such as challenge-based learning.

In an age where digital transformation accelerates at an unprecedented pace, the relevance of digital inclusivity has ascended to the forefront of educational priorities. The COVID-19 pandemic, a catalyst in this digital revolution, has accentuated the need for adaptable, resilient educational

technologies, simultaneously highlighting the disparities in digital readiness among educators and students. It is within this context that IGNITION aspires to sculpt a cohesive vision and agenda, fostering digital literacy and inclusion within the higher education sphere. This document, the first significant outcome of the IGNITION project, lays out a crafted Common Digital Agenda and Framework. It draws from a ‘learning history’ methodology, furnishing an operational definition of digital literacy and encapsulating a nuanced analysis of the pandemic’s impact, current digital education trends, and the burgeoning need for refined digital literacy skills.

As we navigate through this white paper, we will encounter an in-depth exploration of the methodologies and conceptual frameworks employed by the IGNITION partners. These approaches are grounded in a rich tapestry of research, interviews, and collaborative reflections, all converging towards a singular goal: to define, understand, and advance digital literacy within the realm of higher education. By dissecting the varied experiences and insights garnered from this collaborative project, the paper aims to crystallize a path forward, outlining actionable steps and key learnings that resonate with the urgent need to cultivate



a digitally literate and inclusive academic ecosystem.

In the following sections, this white paper will detail the methodologies and conceptual frameworks used by the IGNITION partners, providing a clear understanding of the project's approach to enhancing digital literacy in higher education. It will offer insights into the various strategies and experiences that have shaped this initiative,

including a thorough analysis of the impact of the COVID-19 pandemic on digital learning. The paper aims to outline practical steps and key observations that are crucial for fostering a digitally inclusive academic environment. Through this exploration, we seek to inform and support educational institutions, educators, and stakeholders in their ongoing efforts to adapt to and thrive in the digital era of higher education.



2. BACKGROUND: COOPERATION PARTNERSHIP IGNITION

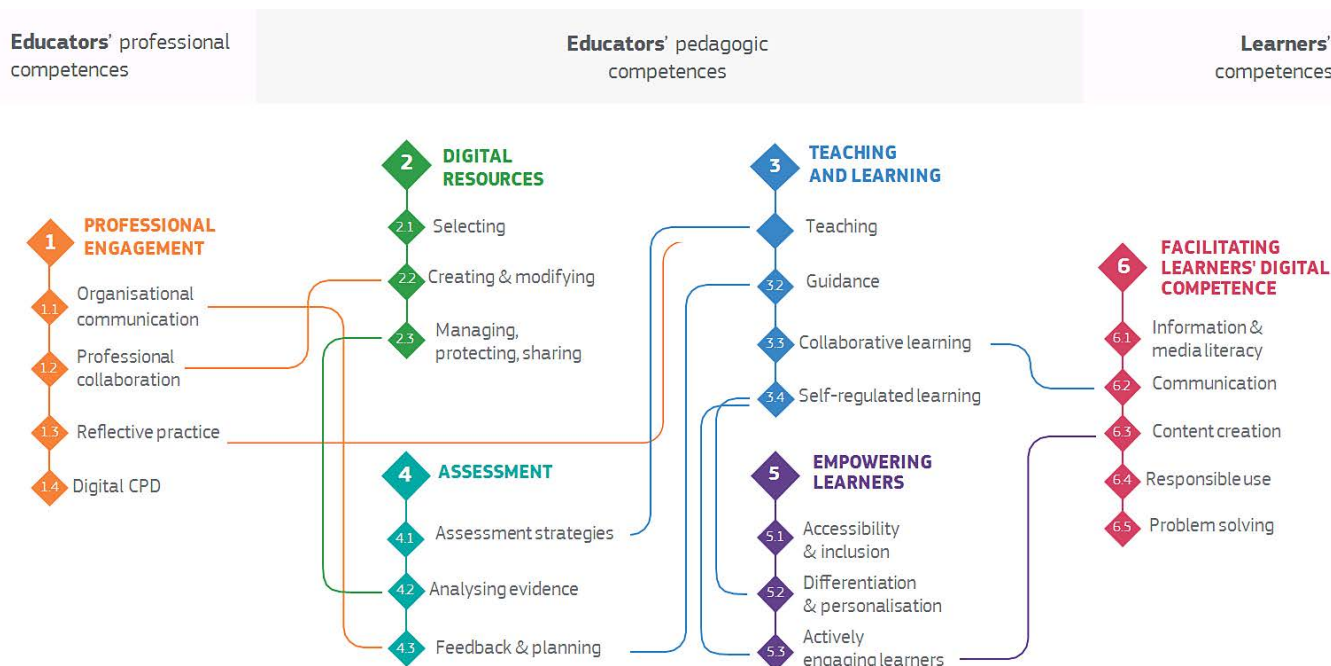
The IGNITION project, funded by Erasmus and initiated in May 2022, is a collaboration between four universities: Hanze University of Applied Sciences, Hochschule Bremen, South-East Technological University, and Bragança Polytechnic University. This three-year project focuses on enhancing digital literacy across faculty members, students, and external entities through innovative teaching methods like challenge-based learning. The initiative addresses the rapid digital transformation in society and education, intensified by the COVID-19 pandemic, which has highlighted the challenges in adapting to digital learning and collaboration.

IGNITION's primary goal is to create a unified approach to digital literacy and inclusion in higher education. This involves raising awareness, developing competencies, co-creating innovative pedagogies, and engaging with external stakeholders. This document presents the first outcome of the project - the Common Digital Agenda and Framework, formed using a learning history methodology and addressing the pandemic's impact, the current state of digital teaching and learning, and the growing need for digital literacy skills. It concludes with proposed actions to apply the framework, aligning with the urgent need to improve digital literacy and inclusion in higher education.

3. METHODOLOGY AND CONCEPTUAL FRAMEWORK

The methodology used in this research involves the Learning History approach, conceptualized by MIT scholars George Roth and Art Kleiner in 1995 that organisations to learn from their experiences and adapt (Roth & Kleiner, 1995). The methodology aims to gather qualitative data on experiences, needs, challenges, and lessons in the realm of digital education. The process included extensive literature reviews, interviews with educational professionals, and an online focus group using the Miro board, engaging members from partner universities. These steps aimed to understand the pandemic's impact on digital teaching and identify needs for digital literacy skills development. Insights gained were structured using the DigCompEdu framework to shape the Common Digital Agenda and Framework (Redecker, 2017).

The concept of digital literacy in higher education is multifaceted, with definitions varying according to policy, academic research, and the emphasis on technical skills or social practices. The European Commission's Digital Competence Framework, evolving into DigCompEdu, highlights the educational applications of digital technology. Digital literacy encompasses a range of knowledge, skills, and attitudes, extending from technical proficiency to critical thinking and social practices. The IGNITION project employs the DigCompEdu framework, recognizing digital literacy as a diverse and evolving field that influences education, society, and work.



(DigCompEdu, 2017)

4. INSIGHTS FROM PARTNER UNIVERSITIES

4.1. HANZE

4.1.1. HANZE POLICY TOWARDS DIGITALIZATION AND RESEARCH

Hanze has strategically planned for Digital Transformation for 2022-2025, focusing on several key objectives. These include exploring opportunities to enhance education and research through digitalization, integrating essential digital skills into the curriculum to ensure equal opportunities for all students, contributing to the inclusiveness and economic growth of the Northern Netherlands, and forming impactful collaborations with key stakeholders.

Complementary to this strategic plan, research conducted by Wolfensberger and Ding (2020) during the early stages of the COVID-19 pandemic sheds light on the challenges faced by educators. They encountered difficulties in adapting to online teaching, particularly in terms of didactics, skills, and time management. The transition also affected interaction with students, leading to challenges in effective knowledge transfer. In response, the researchers proposed several strategies to improve the online educational experience, including adopting smaller group sizes, shorter sessions, a buddy system for teacher support, and direct questioning methods to facilitate better engagement (Wolfensberger & Ding, 2020).



HANZE



4.1.2. Results of Expert Interviews

At Hanze, eight experts including researchers, administration and IT staff were interviewed in October and November 2022.

a. Impact

Expert interviews at Hanze focused on the impact of COVID-19 on teaching, revealing significant changes in the educational landscape. The pandemic reduced teachers' resistance to digital methods, prompting them to enhance their digital skills and adapt their teaching approaches. Despite this progress, high workloads and technical challenges, especially with Learning Management Systems (LMS), remained significant barriers. Teachers struggled with the practicalities of blended and hybrid teaching and required frequent technical support.

From the students' perspective, remote learning facilitated new communication channels and made education more accessible, yet it also widened the digital divide between students and faculty. Notably, students displayed a preference for audio-visual learning and became more selective in attending in-person classes, valuing the flexibility of reviewing recorded lectures. These shifts in student behaviour reflect broader changes in learning preferences and engagement in the digital era.

b. Digital learning and teaching

In the digital education landscape, the significance of interactive and collaborative tools like Teams, Blackboard, Padlet, Mentimeter, and Miro has been emphasized by experts. These tools have been essential in enhancing collaborative learning and student engagement, allowing for asynchronous work. Additionally, devices for teacher feedback and multimedia elements such as short videos and animated PowerPoints have become crucial.

During the COVID-19 pandemic, teachers at Hanze significantly improved their digital skills, leading to increased demand for new applications and stricter scrutiny by ICT departments. Challenges in interoperability and adherence to security and privacy regulations, like GDPR, particularly in collaborations with external stakeholders, have been highlighted. Experts pointed out issues with online communities and document sharing due to privacy concerns.

While Hanze has made considerable progress in digital teaching and learning, there's recognition of the need for further improvement. A key gap is the absence of an interdisciplinary support team to aid faculty in using digital tools effectively for teaching and engagement. This team would provide crucial support and training for faculty, enhancing the overall digital education experience.





c. Digital Literacy Skills

Experts have observed a growing awareness among teachers at Hanze about digital literacy, though this awareness sometimes carries a negative connotation. Digital teaching is recognized as more than just digitizing lectures; it involves a comprehensive approach to technology use in education. A disparity in digital literacy skill motivation is evident between senior teachers and their younger counterparts, with the former often questioning the need for new skills at this stage of their careers.


Teachers are increasingly under pressure to be digitally competent, extending beyond just using digital tools in teaching to make educational content consistently available, with a focus on privacy and security concerns. Collaborative learning among teachers is seen as key to easing the learning curve for digital literacy, as it helps in understanding the broader context and reduces the feeling of being overwhelmed.

Students, on the other hand, tend to stick to familiar digital tools but show gaps in basic knowledge, like navigating learning systems. They also need to develop critical thinking and ethical awareness, especially in areas such as plagiarism.


For the IGNITION project's Common Digital Agenda, experts believe that the focus should be on enabling teachers to employ a range of digital teaching and learning techniques from blended learning to data-driven techniques, to bridge the digital divide among teachers. Essential to this goal is institutional support, providing teachers with the necessary time and resources. This includes establishing communities where teachers can exchange insights. The focus aligns with the DigCompEdu Framework, emphasizing competencies in Teaching and Learning, Professional Engagement, and Empowering Learners.

4.1.3. Conclusions and recommendations (HUAS)

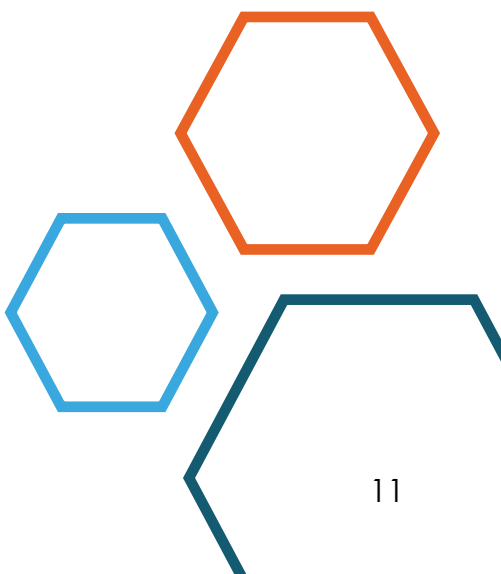
This document presents IGNITION's Common Digital Agenda and Framework, addressing digital literacy in higher education at Hanze, shaped by COVID-19 impacts. It highlights the necessity of an interdisciplinary team to aid teachers and enhance digital literacy skills. Key recommendations include enhancing digital teaching methods, integrating blended learning, digital didactics, curriculum competencies, content creation, data-driven education, closing the teacher digital gap, and establishing a community of practice among faculty.



“Teachers first wanted to hold onto their old ways of teaching. Now they are really thinking about changing their teaching methods since they already made a lot of material.”
(interviewee 3)



“Students are a lot more digitally skilled than the teachers and employees. For example, students use social media much more in their communication than employees and there is a distance between students and employees, so it doesn’t connect very well with each other.”
(interviewee 7)



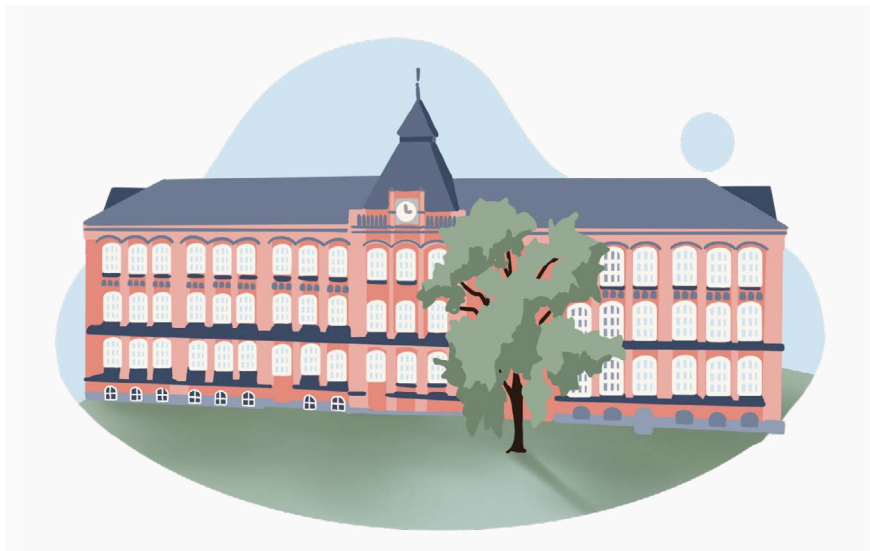
“In a team, to make them (teachers) fully understand why they do what they do. Teachers get overwhelmed with all the information about digital literacy, so it’s hard to start learning alone.”
(interviewee 3)

4.2. HOCHSCHULE BREMEN CITY UNIVERSITY OF APPLIED SCIENCES (HSB)

4.2.1. HSB POLICY TOWARDS DIGITALIZATION AND RESEARCH

HSB, led by its School of Electrical Engineering and Computer Science, has significantly advanced in digitalizing education, particularly during the COVID-19 pandemic. This transition to digital and hybrid teaching methods was supported by HSB's Directorate for Digitalization and the Center for Teaching and Learning (ZLL). Notable initiatives include a state-compliant streaming concept for hybrid teaching, utilizing Open Broadcaster Software (OBS), and transforming the "Electromagnetic Waves" lab into a digitally-controlled, remotely accessible module with live webcams, funded by the Corona Fund.

ZLL has been instrumental in training faculty and managing digital platforms, focusing on digitizing teaching materials and enhancing online educational platforms. HSB employs the Bond & Bedenlier model (2019) to improve student engagement in remote learning, incorporating cognitive, affective, and behavioural aspects in teaching. Blended learning techniques with a mix of synchronous and asynchronous activities have proven effective in student engagement. Overall, these efforts are part of HSB's broader digital education strategy, funded through the AddInno project until 2025, showcasing its commitment to innovative, student-focused teaching in the digital era (for more information, see <https://www.hs-bremen.de/studieren/im-studium/zugaenge-und-portale/#c942>).



HSB



4.2.2. Results of expert Interviews

In December 2022, HSB conducted five key interviews, including one with its Vice President of Digitalization. Utilizing various formats, the interviews drew from a diverse group of university stakeholders involved in digital and hybrid teaching, such as teachers, technical staff, and quality management experts.

a. Impact

The COVID-19 pandemic significantly impacted education, catalysing a shift towards digital teaching and reducing educators' initial hesitancy towards digitalization. Teachers faced technical challenges, especially with LMS, highlighting a need for best-practice guidelines and improved digital assessment tools. The transition largely involved blended and asynchronous learning, yet technical issues and process uncertainties left teachers feeling unsupported.

Students' reactions to digital learning were mixed. While some preferred in-person classes, others adapted to remote learning, underscoring the importance of robust online infrastructure. Notably, students became more selective about attending classes, valuing the convenience of recorded lectures. This shift revealed a "consumer mindset" with shorter attention spans, posing engagement challenges. Even tech-savvy "digital natives" encountered difficulties in effectively utilizing digital tools. Overall, while the pandemic hastened digital teaching adoption, it also exposed

ongoing challenges in technical support, student engagement, and the necessity for enhanced digital resources.

b. Digital learning and teaching

In assessing digital teaching environments, experts have underscored the significance of digital collaboration tools. Platforms like Stud.IP, ILIAS, BigBlueButton, and Zoom, offering resources from video tutorials to online exams and interactive features, are crucial. Tools for visual aid and collaboration, including Collaboard, Miro, Discord, and MS Teams, have also been vital, particularly for external partnerships. Despite these advancements, challenges persist, notably with HSB's in-house platform AULIS, deemed cumbersome by external partners due to registration barriers and limited adaptability for diverse stakeholder needs.

The integration of virtual tools has improved communication and meeting coordination with external entities. However, the need for a unified solution accommodating students, faculty, researchers, and external collaborators remains unmet. Discussions have touched on emerging technologies, such as the metaverse, indicating potential future directions. There's a growing consensus on the need for a comprehensive digital teaching strategy that transcends technical considerations to encompass legal, accessibility, and cultural aspects of digital literacy within the institutional framework.






c. Digital Literacy Skills

Experts' views on educators' digital literacy skills vary. Some see an increased awareness in faculty members, while others observe a reliance on basic skills established during the pandemic, leading to inconsistent classroom experiences caused by simple issues from unmuted microphones to lack of understanding of educational technologies. Students, too, show digital literacy gaps, notably in evaluating academic literature and using technology effectively. To enhance digital literacy, a comprehensive approach is recommended, involving self-assessment, methodological prowess in virtual teaching, and technical skills beyond common


platforms like Zoom or Google Docs. Educators need to understand tool limitations and data protection protocols, especially when working with external partners, and possess basic troubleshooting skills. However, reliance on university support systems remains necessary. To prepare for future educational challenges, a strategic approach is essential, one that encompasses legal considerations, curriculum synchronization, and an institution-wide commitment to digital transformation. This holistic strategy aims to elevate digital competencies across all levels of the educational system.

4.2.3. Conclusions and recommendations

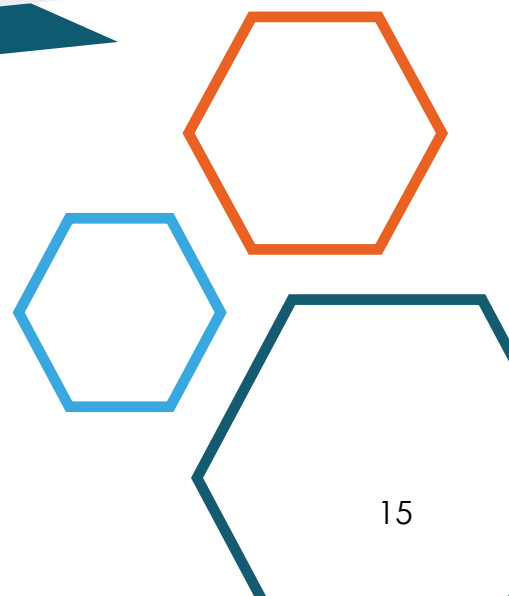
HSB's digital infrastructure is substantial, anchored by its Center for Teaching and Learning (ZLL) for digital pedagogy expertise, technical setup, and training. The in-house learning platform AULIS is frequently updated under the oversight of a Vice President for Digitalization, ensuring comprehensive support for staff's digital literacy. Efforts are aligned with legal requirements and IT policies, emphasizing data security and system compatibility. Key challenges include enhancing teachers' digital literacy, particularly in hardware, software, hybrid teaching, and troubleshooting. Teachers face adapting to multi-device environments and diverse audio-visual inputs. Addressing these needs, institutions could provide digital literacy workshops, technical guidelines, online self-assessment tools, and regular updates on technology trends. Overall, achieving digital literacy in education demands an integrated approach, incorporating a strong infrastructure, legal compliance, curricular integration, and the development of teacher competencies.



*“Without people who are able to use digital technology adequately, we will not be able to explore the possibilities and assess the limits.”
(interviewee 5)*



*“Even though the current student generation is often described as digital natives, many of them face significant problems using digital learning tools and have difficulties in interacting with fellow students and instructors; in presence or digitally!”
(interviewee 3)*



*“The prerequisite is the reflection of one’s own knowledge and skills as well as the awareness to develop oneself further and to learn. Knowledge does not stand still and should be regularly renewed, adapted and expanded.”
(interviewee 3)*

4.3. POLYTECHNIC INSTITUTE OF BRAGANÇA (IPB)

4.3.1. IPB POLICY TOWARDS DIGITALIZATION AND RESEARCH

The Bragança Polytechnic University has developed a set of strategic plans for the period of 2023-2026, with five essential mission objectives: teaching, research, innovation, cultural promotion, regional development, internationalization, and the empowerment and recognition of people, all of which are focused on the need for digitalization. The plan, shaped by the COVID-19 pandemic's influence on digital media use, focuses on improving work organization, implementing inclusive policies, fostering well-being, promoting responsible data use, and enhancing scientific and educational resources. The university acknowledges the pandemic's impact on the need for emotional support and effective communication, addressing these alongside digitalization to ensure the mental well-being of its community.

Research conducted by the university emphasizes the evolving nature of digital education in Portugal. Marques (2020) advocates for a blend of asynchronous and synchronous teaching methods. Nobre and Mouraz (2020) discuss the challenges in creating engaging, cost-effective online curricula that necessitate enhanced self-management and soft skills. Seabra et al. (2020) highlight educators' challenges with increased workloads and complex time management, emphasizing the need for improved online accessibility for disabled students. Vicente et al. (2020) references the "Digital Bologna" framework and the EU's Action Plan for Digital Education, emphasizing the importance of policy-driven strategies in digital education. These insights collectively offer a comprehensive view of the hurdles and opportunities in advancing digital education at academic institutions.





4.3.2. Results of expert interviews

Four interviews were carried out at IPB, from November 21 to November 29, 2022. The interviewees are from the areas of health, information technology, education and technology.

a. Impact

At Bragança Polytechnic University, the integration of technology into teaching has faced its share of challenges and opportunities. Despite initial struggles with managing electronic devices at home and internet-related frustrations, educators actively sought to enhance their tech-savvy through various means such as tutorials, training, and the institute's TaskForce established in March 2020. Importantly, some faculty members were already ahead of the curve, teaching international master's programs via online platforms. Professors noted several advantages to the digital shift, including peer-based evaluation, the ability to adapt methodology for online settings, increased participation in courses and seminars, and saved time due to the absence of travel. Conversely, challenges emerged, particularly concerning the credibility of student evaluations.

Interview results indicate that during the pandemic, many colleagues at IPB had difficulty using the computer and the internet and needed support to teach their classes. Meanwhile, students have bolstered their digital skills, although there is a noticeable drop in motivation,

interest, and engagement in extracurricular activities, likely attributed to the loss of social life experienced during the pandemic.

b. Digital learning and teaching

In the context of digital education at IPB, a variety of technologies has gained prominence, ranging from Zoom and IPB Virtual to Learning Management Systems and interactive tools like Kahoot and Discord. Initially hesitant, students have become more open to these digital tools than before the pandemic. Networking among stakeholders has also seen improvements, with partners being "closer" and making faster connections. Uniquely, the virtual realm even allowed for pre-internship site visits, enhancing student performance.

During this period, the Bragança Polytechnic University's virtual platform underwent necessary adaptations to meet pandemic-related demands. An expert interview encapsulated this journey, stating that people have reached a digital level they would have without the pandemic. Despite some initial resistance from colleagues, they now use technologies in the classroom that facilitate and capture students' attention, making technology an ally for teachers. This adjustment has been sustained to date, albeit with some decrease, prompting reflections on teaching methodologies. Further, to facilitate equitable access to technology, the IPB offered scholarships for computer acquisition.





c. Digital Literacy Skills


At IPB, faculty members display varying degrees of technological awareness and adoption. They can be broadly categorized into three groups: tech-savvy educators, those resistant to technology, and those willing to explore it. The pandemic served as a catalyst for all to seek additional training and information. On the student side, a general ease with the online environment was noted.

Compared to the pre-pandemic era, individuals today are more digitally competent, underlining the transformative effect of the pandemic on digital skills acquisition. This increased competence also prompts considerations for virtual safety and the necessity for hands-on learning. It's recommended that users initially engage with technological applications under guided support, facilitating practical learning while pre-emptively addressing any queries or concerns.

4.3.3. Conclusions and recommendations

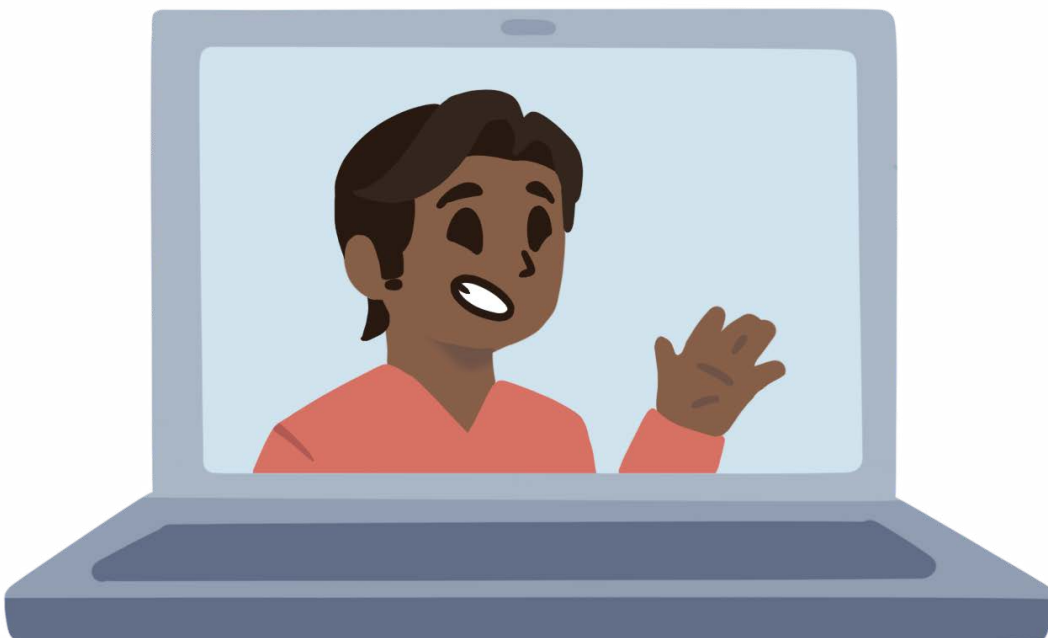
In conclusion, Bragança Polytechnic University has experienced a somewhat paradoxical trend in its digital journey. Post-pandemic, there has been a noticeable decline in the adoption of technology, yet, overall, the university has maintained a positive trajectory in its digital transformation efforts. Looking ahead, it's imperative to continue this momentum by ensuring a more comprehensive inclusion of all stakeholders. This includes enhancing access to basic digital resources, a crucial step towards a more inclusive digital environment.

Furthermore, student engagement is a key area that requires attention, with a particular emphasis on active learning methodologies to keep students involved and motivated. To support these efforts, several critical areas have been identified for further development. These include the introduction of active teaching techniques, providing digital training for faculty, elevating student digital literacy, utilizing virtual labs for practical learning experiences, and developing a cohesive strategy for digital transition. By focusing on these areas, Bragança Polytechnic University aims to optimize both the technological infrastructure and the pedagogical approaches, ensuring a balanced and forward-thinking educational environment.



*"Like writing on a whiteboard?
Where do I record the class? How
do I remove the audio?"*

*"In online classes, if the student's
internet goes down, he has already
lost important aspects when he
returns to join."*



4.4. SOUTH EAST TECHNOLOGICAL UNIVERSITY (SETU)

4.4.1. SETU POLICY TOWARDS DIGITALIZATION AND RESEARCH

South East Technological University (SETU) undertook an extensive review of policy literature to comprehend the diverse challenges the pandemic introduced to education. This review, grounded in authoritative Irish institutional documents, sheds light on the complexities educational stakeholders face and guides SETU's strategic direction.

The "Digital Ireland Framework," issued by the Irish Government in 2020, highlights digital literacy's critical role in bridging societal and economic divides, advocating for the equipping of educators and learners with necessary digital skills (Irish Government, 2020). This aligns with the National Forum for the Enhancement of Teaching and Learning in Ireland's 2021 report, which promotes innovative pedagogies for boosting student engagement and resilience. Their guide on fostering digital and open teaching and learning underscores the significance of institutional backing in developing supportive policies for a digital educational environment (National Forum for the Enhancement of Teaching and Learning in Ireland, 2021).

These insights are reinforced by the 2019 Irish National Digital Experience (INDEX) Survey, which revealed inconsistencies in digital preparedness among teachers and students (Irish National Digital Experience, 2019). The Quality and Qualifications Ireland's 2020 study, "The Impact of COVID-19 Modifications to Teaching, Learning and Assessment ," further indicates that the swift shift to digital mediums during COVID-19 pandemic exacerbated disparities in digital literacy, impacting teaching methods and learning outcomes (Quality and Qualifications Ireland, 2020).



SETU



Leveraging these findings, the IGNITION project aims to develop a comprehensive digital learning framework to address these issues holistically. This includes integrating active learning methodologies, enhancing faculty digital capabilities, and ensuring student access to vital technologies. Additionally, IGNITION endeavours to contribute to societal progress by sharing effective digital educational practices, reflecting the broader benefits of technological progress. This approach seeks not only to address the challenges identified in the policy review but also to lead the way towards a more equitable and advanced educational future.

4.4.2. Results of secondary research

a. Impact

The sudden closure of Ireland's Higher and Further Education sector on March 12, 2020, led to an instant shift to remote learning, underscoring the critical need for digital skills among learners and academic staff. This transition revealed existing gaps in digital competencies, highlighting the importance of continuous efforts to identify, assess, and bridge these skill gaps.

In the post-pandemic landscape, many higher education institutions are returning to traditional on-campus teaching, yet the trend towards blended and hybrid methods—combining in-person and digital learning—is expected to persist. The lessons learned during the pandemic are crucial for the continuous development of educational strategies, emphasizing the need for their systematic integration into everyday teaching practices. This approach is vital for sustaining the strength and resilience of European higher education and promoting ongoing access to lifelong learning opportunities.

The COVID-19 pandemic has acted as both a challenge and a catalyst, hastening the digital transformation within the educational sector. It has highlighted the potential for leveraging these experiences to create long-term benefits, especially in promoting digital equity and refining teaching methodologies across European higher education institutions.

b. Digital Teaching and Learning



During the COVID-19 pandemic, SETU's evaluation of emergency remote teaching revealed significant challenges in several key areas impacting both staff and students. These include the nature of remote teaching, assessment strategies, student engagement, delivery modes, and the necessary cognitive and emotional environments for effective online learning.

A crucial distinction emerged between reactive "Emergency Remote Teaching" and strategically planned "Purposefully Designed Teaching." This shift necessitates a well-informed and carefully structured online pedagogical framework for enduring resilience and effectiveness.

Assessment strategies in remote settings required a deeper investment in time and clear guidance for students, with a renewed focus on maintaining academic integrity. Student engagement presented complexities in the virtual domain, underscoring the need for dynamic active and blended learning environments that balance teaching, social interaction, and cognitive presence.

The mode of delivering education is evolving, with adaptive learning environments becoming vital to accommodate diverse instructional methods tailored to learner profiles and outcomes. Additionally, effective online learning hinges on supporting the cognitive and emotional needs of students, highlighting the importance of soft skills in digital education.





In summary, these multifaceted challenges call for an institutional framework that supports the transition to online learning while proactively engaging with the wider digital agenda. Such strategic engagement is crucial in cultivating digital skills and literacy among all educational stakeholders, fostering a resilient and adaptable learning environment in the face of ongoing digital transformation.


c. Digital Literacy Skills Development

In the context of digital literacy, competency is intrinsically tied to personal confidence and self-efficacy in applying digital skills. Organizational strategies must focus on nurturing this confidence. The language surrounding Technology-Enhanced Learning (TEL) lacks uniformity across Irish Higher Education Institutions, indicating a need for standardized terminology for e-learning, blended, and hybrid learning.


The Irish National Digital Experience (INDEX) Survey of 2019, completed by 30,000 staff and students, revealed crucial insights (Irish National Digital Experience, 2019). At the survey's time, 70% of teaching staff had never taught online—a figure that changed drastically with the onset of COVID-19. Key findings include 78% of students engaging in online collaborative work, 43% of staff discussing teaching online with peers, and 71% of students rating their digital teaching and learning experience above average. The pandemic highlighted the importance of communities of practice for academic staff, as revealed by Flynn and Noonan's 2020 research. A significant 88% of staff were in regular online contact with colleagues, enabling skill-sharing and fostering best practices (Flynn & Noonan, 2020). Such communities are essential for ongoing professional development as they offer diverse online teaching tools and support mechanisms.

4.4.3. Conclusion and recommendations

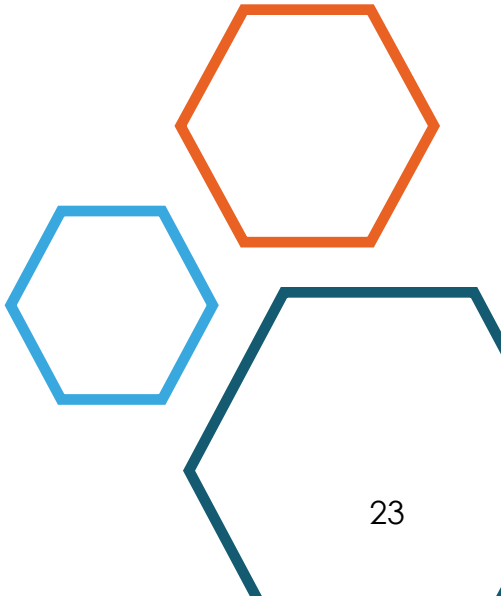
In conclusion, five key areas essential for the evolution of digital education include; first, transitioning from emergency remote teaching to purposefully designed online instruction is crucial. This demands evidence-informed practices for effective learning outcomes. Second, remote assessments need detailed planning to uphold academic integrity. Third, reimagining student engagement strategies in online platforms is vital for active learning and social interaction. Fourth, as teaching methods diversify, adopting blended and hybrid delivery modes will be increasingly important. Finally, creating conducive cognitive and emotional spaces for online learning is essential. For Higher Education Institutions aligning institutional policies with these focus areas will be pivotal. The value of communities of practice and consistent technology-enhanced learning terminology should not be underestimated in this ever-changing educational landscape.



“The pandemic has catalyzed a shift towards blended and hybrid teaching methods, underlining the importance of embedding these strategies into everyday practices to enhance the resilience of European higher education.”



“Transitioning from emergency remote teaching to purposefully designed teaching is crucial, necessitating a structured pedagogical framework for effective and resilient digital education.”



“Rapid changes in online teaching underscore the importance of developing digital literacy skills and fostering communities of practice among educators, to share skills and enhance professional development in a digitally evolving educational landscape.”

5.RESULTS: A COMMON DIGITAL AGENDA AND FRAMEWORK FOR IGNITION

Based on desk research and interviews, a virtual focus group was convened featuring all the expert members of the IGNITION project team, totaling 14 respondents. Initially, participants engaged in a dialogue on the concept of digital literacy, sharing insights via a Miro board. The group collectively acknowledged the multi-faceted and ambiguous nature of digital literacy, aligning with Belshaw's 2017 framework (Belshaw, 2017). Subsequently, the experts divided into smaller breakout groups of 4-5 members each to dissect research findings and discern emerging trends, guided by a predefined list of priority topics. After these discussions, everyone reconvened for a plenary session to share findings and establish areas of commonality and priority. This iterative process, along with its visual representation on the Miro board, resulted in a finalized list of prioritized topics, detailed in the following chapter. The Common Digital Agenda and Framework of IGNITION.

Following the results of the focus group, the Common Digital Agenda and framework established five topics to focus the attention on in IGNITION's project results and activities:

1. Digital didactics for teaching and learning, with specific mention to:
 - a. Data-driven education
 - b. Collaborative Digital Learning
 - c. Blended Learning
2. Digital equality, to achieve
 - a. Closing the digital gap between all learners
 - b. Engagement of learners through communication, sharing practices, and specific actions such as toolkits and courses to engage external parties (Lifelong Learning, access to HEI's programs and activities)
3. Digital resources, in the broad sense:
 - a. Selecting digital resources
 - b. Creating and modifying digital resources
 - c. Managing, protecting, and sharing digital resources
4. Assessment strategies and tools for digital literacy and inclusion, specifically for:
 - a. (Self) reflection on skills development
 - b. (Self) assessment of skills development
5. Continuous Professional Development with a focus on a shared digital language

With this list of prioritized topics, interpreted along the lines of the DigCompEdu Framework, partners expect to achieve the necessary focus for reaching the primary goal of the project: raising awareness on and increasing the development of digital literacy skills of all target audiences involved in higher education institutions: faculty staff, teachers and coaches, students and external parties.

With this Agenda, IGNITION aims to scope and narrow down the broad concept of digital literacy to a prioritized set of topics to focus on in the project's activities and work packages, such as i) the Self-Assessment Tool on Digital Literacy, ii) the Community of Practice, iii) the Digital Challenge Innovation Lab and iv) the Toolkit for External Stakeholders. In the following paragraphs, a more specific elaboration of how these topics are outlined as follows:

- a. A short definition and description of the topics
- b. Examples of research informed good practices

IGNITION's

DIGITAL AGENDA FOR HIGHER EDUCATION

Explore the **key priorities** of our **Digital Agenda**, curated through our international research in the **IGNITION** project. **Our mission?** To enhance digital literacy skills, raising awareness, and foster digital inclusion across higher education for all stakeholders from students to external collaborators. **Join us** in forging a digitally empowered future in education.

1. Digital didactics for teaching and learning, with special emphasis on:

- a. Data driven education
- b. Collaborative Digital Learning
- c. Blended Learning



2. Digital equality, with the aim to achieve:

- a. Closing the digital gap between all learners
- b. Engagement of learners through communication, sharing practices and specific actions such as toolkits and courses to engage external parties

3. Digital resources, in the broad sense:

- a. Selection of digital resources,
- b. Creating and modifying of digital resources,
- c. Managing, protecting and sharing of digital resources



4. Assessment strategies and tools for digital literacy and inclusion, specifically for:

- a. (Self) reflection on skills development
- b. (Self) assessment on skills development

5. Continuous professional development with the focus on a common digital language





5.1 DIGITAL DIDACTICS: DATA-DRIVEN EDUCATION, COLLABORATIVE DIGITAL LEARNING, BLENDED LEARNING

Digital didactics involves using technology for teaching and learning, providing access to various digital sources in physical and virtual learning spaces for interaction among students and teachers.

Data-driven education is linked to using big data and analytics to enhance learning processes by identifying student needs and designing personalized modules/strategies. However, despite awareness among experts there is a lack of policies on data-driven education.

Collaborative digital learning involves using various platforms and tools to encourage collaboration between students and

other stakeholders in active pedagogy or challenge-based learning. For example, synchronous options like video conference software and digital whiteboards and asynchronous options like chat, forums, and shared folders. Recently, metaverse for education has emerged as a 3D learning environment for collaborative digital learning.

Blended learning is a teaching method where you use digital platforms and tools to complement your lessons, next to in-person sessions, for sharing knowledge, giving feedback, or assessing in digital environments. Classes are, in this way, more flexible and engaging, and affordable.

5.2 DIGITAL EQUALITY: CLOSING THE GAP AND ENGAGING LEARNERS

Digital inequality is described as a range of differences in access to digital devices and the digital literacy skills that enable learners to use such devices for learning. The OCED (2001) describes the digital divide as “the gap between individuals, households, businesses, and geographic areas at different socio-economic levels regarding their opportunities to access ICT and their use of the Internet for a wide variety of activities.” (OCED, 2001). Various socio-economic country and individual factors impact the digital divide and inequality, which have only been compounded since the COVID-19 pandemic. Therefore, an inclusive education environment must ensure full access and inclusivity across the education spectrum.

In exploring how higher education institutions address digital equality, critical practices have addressed physical access to devices, motivation to engage, and the learner’s level of digital skills and literacy. An example of current good practices to close the digital equality gap include the INTUTOR project from Ireland. INTUTOR collaborates with staff and students across the Technological Higher Education sector. The INTUTOR program offers up to €5,000 funds for students and staff to collaborate on small-scale enhancement projects, which are expected to impact the student experience immediately. A key theme for the collaboration is digital transformation in teaching and learning.





5.3 DIGITAL RESOURCES: SELECTION, CREATION, MODIFICATION, MANAGEMENT, PROTECTION, AND SHARING

Digital literacy, the cornerstone of IGNITION's agenda, transcends traditional education models by enabling ideas to cross distances without physical travel. This innovative approach focuses on overcoming digital literacy barriers across educational institutions, extending beyond defining digital literacy and its objectives to include necessary resources for its realization, categorized into hardware, software, structural, and institutional resources.

The initiative's technological aspect scrutinizes complex hardware and software elements. For instance, work package IO2 emphasizes online self-assessment with open-source tools to enhance faculty readiness for digital and hybrid learning environments. IO3 addresses secure communication compatible with institutional regulations and privacy policies, while IO4 and IO5 focus on developing a digital challenge lab and a toolkit for external stakeholders, respectively. These efforts are grounded in a robust institutional framework ensuring their practicality and effectiveness.

Structurally, the initiative examines the

incorporation of digital elements into varying curricula and legal frameworks. HSB in Bremen, for example, integrates digital didactics into traditional teaching methods and adapts regulations for digital assessments. Revisions in accreditation processes aim to include international modules and micro-credentials in curriculums. A Vice President for Digitalization at HSB, appointed in 2020, oversees resource allocation and enhances online student self-assessment protocols.

A significant challenge is establishing a common digital platform, exemplified by a collaborative project between HSB and ITB. The hurdle of external students accessing HSB's learning platform has prompted changes in data security protocols and IT department strategies.

In conclusion, IGNITION's holistic strategy not only outlines digital literacy but also seeks to remove obstacles impeding its integration. By addressing technological, structural, and institutional aspects, it lays the foundation for a future where intellectual exchange is limited only by imagination, transforming the educational landscape for the better.

5.4 ASSESSMENT TOOLS AND STRATEGIES FOR DIGITAL LITERACY AND INCLUSION

DigCompEdu's focus on "Assessment" in higher education revolves around aligning evaluation methods with advancements in digital teaching. This transition adds complexity but also presents opportunities to streamline evaluation processes. Under "Assessment Strategies," there's a push for incorporating both formative and summative assessments compatible with digital tools to diversify evaluation methods. The "Feedback and Planning" sub-topic stresses the importance of using technology for prompt, accurate feedback and adaptable teaching strategies based on evidence.

"Reflective Practice" has seen progress in acknowledging diverse pedagogical approaches and the adaptability of digital platforms. Innovative uses of tools, supported by student-centred, active learning strategies, are emerging. However, sustaining digital professional development poses challenges. The pandemic, while increasing digital uptake among educators,

also exposed difficulties with hybrid teaching. Solutions include interdisciplinary support teams and specialized training to enhance digital literacy.

A notable shift to online/remote assessment requires thorough preparation from educators and students, demanding more explicit tools and methodologies. Bridging the communication gap between teachers and students is vital to combat shortened attention spans and ensure clear, uninterrupted communication channels. The digital skills gap among students and teachers calls for increased investment in digital literacy programs and understanding the reasons behind low enrolment rates. Safe online navigation skills are also lacking, underscoring the need to build trust in digital platforms. The overarching goal is to provide comprehensive training and infrastructure, closing the digital divide and facilitating effective technology integration in education.





5.5 CONTINUOUS PROFESSIONAL DEVELOPMENT AND DIGITAL LANGUAGE

The gap between required versus existing competencies has been notably brought to light and increased by the pandemic. A standard digital language has been argued to be the fundamental baseline on which digital literacy skills are built. Continuous professional development plays a significant role in this aspect, as an ordinary digital language could improve and be communicated through continuous professional development activities. Although the DigCompEdu framework is somewhat designed to provide a common language, it defines specific

skills rather than practices and didactic approaches. A standard digital language in higher education encompasses a shared understanding of concepts crucial to digital learning. Such concepts include Blended Learning, Hybrid Learning, Technology Enhanced Learning, and Digital Didactics. Furthermore, Continuous Professional Development must be elevated through institutional policies, as teachers need professional exchange and guidance but are not given the necessary time or opportunity.

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