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Digital transformation in blended learning environments

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Relevance and advantages of blended education

Blended learning in its broad sense refers to education that allows learning in a variety of ways, and as such, most forms of learning systems use blended learning. In the past, blended education involved the use of mass media and various forms of communication such as films, slides, graph tables and others. Over time, as education systems have continuously adapted to societal changes and emerging technologies, a key aspect of blended learning has become the integration of **traditional face-to-face instruction with technology-mediated or online learning**. Hence, this report unpacks the **significance of the digital dimension of blended learning** in the changing landscape of European education.

At the level of the European Union, the 2021 Council Recommendation on blended learning for primary and secondary education established a **unified European understanding of blended learning**, promoting investment and support for this approach to addressing educational inequalities that were exacerbated by the COVID-19 pandemic. Importantly, the Recommendation highlights the integration of digital technology into education, recognising that rapid digital transformation has profoundly changed the educational landscape. With it, approaches to education have changed, and blended learning has become more widespread.

Several **European initiatives and organisations contribute significantly** to the development of blended learning by conducting research and disseminating knowledge about blended learning practices. These include the Association for Teacher Education in Europe (ATEE) and the European Trade Union Committee for Education (ETUCE). **At national level, there is only limited information** about educational institutions currently implementing blended learning, and hence the systematic integration of blended learning into educational practices is still in its infancy. Addressing this **knowledge gap** will require further research in the future.

Supporting the development and implementation of the digital dimension of blended strategies at national and European levels promotes the following benefits:

- **Flexibility:** blended learning allows flexible learning experiences by combining traditional face-to-face instruction with online components, accommodating diverse learning styles and preferences.
- **Individualisation:** blended learning supports personalised learning pathways through adaptive technologies and tailored content, catering to individual student needs.
- **Enhanced engagement:** blended learning fosters higher levels of student engagement and motivation through interactive digital tools, collaborative activities and multimedia resources.

- **Skills development:** blended learning promotes the development of essential skills such as problem solving, collaboration, digital literacy and critical thinking, preparing students for the modern workforce and the digital age.
- **Improved learning outcomes:** blended learning approaches can lead to improved academic achievement and knowledge retention compared with traditional classroom-based methods alone.
- **Inclusivity:** blended learning can mitigate educational inequalities by providing access to education for students in remote areas, those with special educational needs, and vulnerable students. However, the implementation of blended learning in its digital form faces significant problems in remote areas, as well as for less privileged regions and socio-economic groups, due to the digital divide. The digital divide can affect students and teachers alike.
- **Resilience:** blended learning ensures the continuity of education during disruptions such as the COVID-19 pandemic, by offering flexible learning models that can transition between in-person and online instruction.

Current blended learning practices

Several **EU-level initiatives** promote blended learning with a focus on digital education across various education levels, emphasising the importance of developing frameworks and guidelines for its adoption and identifying good practices. These initiatives include:

- The Working Group on Schools “Pathways to School Success” – part of the European Education Area (EEA)¹ strategic framework – has produced reports that assess policy conditions and opportunities for implementing blended learning, focusing on educational inclusion.
- The European Trade Union Committee for Education (ETUCE)² and the European Agency for Special Needs and Inclusive Education (EASNIE)³ have provided guidelines and research on effective blended learning practices.
- Erasmus+ plays a pivotal role in funding research and pilot projects in blended learning. Projects such as the European Maturity Model in Blended Learning (EMBED)⁴ and Blended Learning for Inclusion (BLENDI)⁵ aim to promote social inclusion, enhance digital skills and foster collaboration among educational stakeholders.

National policies and perspectives on blended learning differ between EU Member States. Although there are no initiatives solely dedicated to blended learning, numerous national strategies highlight the fundamental role of blended learning in the form of digital education. These policies focus on ensuring access to digital education by providing adequate infrastructure and training teachers to use digital educational technology effectively. Consequently, blended learning in the form of digital education practices is still evolving in primary, secondary and tertiary education. Meanwhile, higher education institutions have adopted various blended learning models to promote critical thinking, collaboration and self-directed learning.

¹ EEA (n.d.). *Working groups of the EEA strategic framework*. Retrieved from <https://education.ec.europa.eu/about-eea/working-groups#schools>

² European Commission. (2023). *Working group on schools (2021-25) “pathways to school success”*. Retrieved from Blended learning for inclusion: exploring challenges and enabling factors: Key messages and illustrative examples: <https://op.europa.eu/en/publication-detail/-/publication/166bec7-96e2-11ed-b508-01aa75ed71a1/language-en>

³ EASNIE (2022). *European Agency for Special Needs and Inclusive Education*. Retrieved from Peer learning activity on blended learning in European Commission Working Group on Schools: <https://www.european-agency.org/news/blended-learning-pla>

⁴ See project website, available at: <https://embed.eadtu.eu>

⁵ See project website, available at: <https://ildeplus.upf.edu/BLENDI/pg/lds/home/es>

Addressing the challenges facing digital education

While blended learning presents a unique opportunity to revolutionise education, it requires a strategic approach in order to address the challenges faced. These include ensuring equal access to technology, mitigating the digital divide (especially in remote areas and among vulnerable groups), enhancing teachers' professional training, developing effective assessment strategies, and ultimately creating comprehensive guidelines for the systematic integration of blended learning into national education practices.

Equity and access: the report demonstrates the importance of prioritising equitable access to digital infrastructure and resources by expanding broadband networks and providing free or subsidised digital devices to ensure universal access. To that end, public-private partnerships have played a crucial role in facilitating resource procurement and leveraging expertise. Further steps could include implementing training programmes to enhance digital literacy among diverse populations, empowering all individuals to meaningfully engage in education.

Professional development: the report highlights that it is imperative that comprehensive professional development programmes in blended learning and digital literacy are implemented for educators, so that they possess the necessary skills. This could encompass ongoing training, workshops and certifications tailored to equip educators with the skills to effectively integrate digital tools into their teaching practices, as well as incentives such as career advancement opportunities and recognition to encourage educators' continuous improvement in utilising digital technologies in their pedagogy.

Assessment and evaluation: the report also concludes that establishing clear evaluation frameworks and assessment methods is essential to capture the diverse aspects of technology integration in blended learning, including student engagement and learning outcomes. This requires a combination of qualitative and quantitative measures, such as classroom observations, surveys, interviews and the analysis of student work. Given the absence of a universally accepted assessment model for blended learning, continuous evaluation is necessary to address knowledge gaps and ensure the effectiveness of blended learning, providing crucial information for evidence-based decision making.

National frameworks and guidelines: lastly, the report also stresses the importance of adapting blended learning systematically, highlighting the need for comprehensive guidelines and policies across EU Member States to foster a cohesive educational landscape. To this end, it is imperative to align these frameworks with existing EU policies and recommendations in order to promote collaboration, facilitate inclusive practices and support professional development in digital and pedagogical skills, while also encouraging collaborative partnerships and funding initiatives to scale successful blended learning programmes.



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