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WORKING GROUP ON SCHOOLS (2021-25) “PATHWAYS TO SCHOOL SUCCESS”

Thematic report
Blended learning for inclusion: exploring challenges
and enabling factors

Key messages and illustrative examples



EUROPEAN COMMISSION

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Table of Contents

Overview of the report	6
Report structure	7
1. Blended learning for inclusion	8
2. Key messages	12
3. Country and stakeholder organisation examples	16
3.1. System-level support for blended learning for inclusion	16
3.1.1. International research and policy advocacy	16
3.1.2. Training, support and action research for teachers to implement blended learning	18
3.1.3. Public private partnerships to support innovations in education	20
3.1.4. National policy frameworks and investments to support blended learning for inclusion	20
3.1.5. Project-based funding for school and school-network innovations in blended learning	22
3.2. School and community partnerships to support blended learning	22
3.2.1. Community-sponsored initiatives to engage children and support learning	23
3.2.2. Engagement of community leaders in school-based learning	23
3.3. School level approaches to blended learning for inclusion	23
3.3.1. Blending school site and other physical environments away from the school site	23
3.3.2. Blending different digital and non-digital learning tools	25
4. Conclusion	26
Annex 1: Recommended reading	27

Overview of the report

Under its 2021-25 mandate, the Working Group on Schools, Pathways to school success strand, is supporting countries in the implementation of the strategic framework for the European Education Area (2021 – 2030). For the first phase of the mandate (September 2021 – June 2023 period) the Working Group has chosen to focus its work on the themes of **blended learning for inclusion** and **assessment of student competences**.

Blended learning has gained more urgency in the context of the COVID-19 crisis, and now with the arrival of displaced learners from Ukraine in Member States. Striving towards a vision of a better-quality and inclusive education and training is by no means limited to these disruptive events, but they have highlighted the need for education to be more responsive and resilient. Blended learning strategies provide a means of achieving this responsiveness.

Within the broad first theme of “blended learning for inclusion”, the Working Group considered policy conditions and opportunities for supporting schools and teachers to implement blended learning in teaching and learning practices in an inclusive way. It looked specifically at the following topics:

- The pedagogical value of blended learning for inclusion
- Effective pedagogical practices of blended learning
- The impact on required professional competencies of teachers, and the related initial and ongoing teacher education
- The role of school leadership for blended learning for inclusion
- The role of community and school partnerships, cooperation networks, partnerships with parents and carers
- And system support at national/regional/local level.

This report summarises the main findings and conclusions from a series of meetings held throughout 2022. These included plenary meetings (1 -2 February¹, 19 – 20 September², 12 December³), an online seminar (8 March)⁴, and a Peer Learning Activity held in Dubrovnik (5 – 7 October)⁵. The report sets out key messages to guide policy making on blended learning for inclusion that emerged from these discussions. The messages are illustrated with country and stakeholder examples shared by Group members as well as invited speakers participating in the different meetings.

The report is aimed at policy makers and school leaders. Community leaders and teachers will also find the discussion on the aims of blended learning and the specific cases shared to be of interest.

¹ The minutes are available here: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=39874&fromExpertGroups=true>

² The minutes are available here: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=45560&fromExpertGroups=false>

³ The minutes will be available here: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings?lang=en>

⁴ The minutes are available here: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=39894&fromExpertGroups=true>

⁵ The minutes are available here: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=45571&fromExpertGroups=false>

Report structure

The report is organised as follows:

- Section 1 introduces the definition of blended learning as set out in the 2021 Council Recommendation and sets out the objectives of blended learning for inclusion and challenges and enablers to integrating blended learning in regular practice as identified by the Working Group.
- Section 2 presents Key messages for international and national/regional policy makers and for school leaders and their teams.
- Section 3 sets out illustrative examples of policies that support blended learning. Examples of system level support for blended learning for inclusion, as well as of community and school level initiatives are shared.
- Section 4 concludes the report.

1. Blended learning for inclusion

According to the 2021 Council Recommendation on **blended learning approaches for high-quality and inclusive primary and secondary education**⁶, **blended learning comprises** a diversity of approaches and is to be understood as a school (in primary and secondary education, including vocational education and training), teacher and trainer or learner taking more than one approach to the learning process:

- blending school site and other physical environments away from the school site (either with the presence of a teacher/ trainer, or separated by space and/or time in distance learning); and
- blending different learning tools that can be digital (including online learning) and non- digital.

While the Recommendation explicitly mentions both inclusion and quality, this report corresponds with the Working Group priority theme of ‘blended learning for inclusion’. As such, it endorses the European Agency for Special Needs and Inclusive Education definition of inclusive education systems in which: “...*all learners of any age are provided with meaningful, high-quality educational opportunities in their local community, alongside their friends and peers*.” It also concurs with the vision of inclusive education set out in the 2022 Council Recommendation on Pathways to School Success, in which quality education and training for all can only be achieved if education systems are truly equitable and inclusive⁸.

It is also worth noting that the definition set forth in the Recommendation is much broader than the understanding of blended learning found in research literature (see Annex 1). A preliminary search of the literature showed that studies on blended learning tend to focus on programmes that blend digital and face-to-face – or hands-on – learning. Moreover, most research has been conducted at university level. The school-level studies identified do not address the idea of “blending school site and other physical environments away from the school site”.⁹ Nevertheless, research on approaches such as inquiry-based and project-based learning, alternative education (e.g. models offering innovative and differentiated pedagogies, such as Steiner-Waldorf schools), innovative learning environments are also relevant to the WG approach to blended learning. These studies do not typically use the terminology of blended learning but approaches and concerns are similar. They have in common that blended learning supports competence development, through the application of knowledge in varied contexts and using varied tools and pedagogies.

⁶ [Council Recommendation of 29 November 2021 on blended learning approaches for high-quality and inclusive primary and secondary education 2021/C 504/03](#), p. 4.

⁷ <https://www.european-agency.org/about-us/who-we-are/agency-position-inclusive-education-systems>

⁸ <https://education.ec.europa.eu/education-levels/school-education/pathways-to-school-success>

⁹ *ibid*

Examples of schools that apply blended learning (with one approach not excluding the other)

(see also Section 3, examples 14-19)

- Blending school site and other physical environments away from the school site (Waldorf School, Zagreb/Croatia, Dannewerk Schule, Schleswig/Germany, Comprehensive School Giovanni XXIII of Ariceale/Italy, La Lecon Verte, Belgium)
- Blending different digital and non-digital learning tools (The Ivan Gundulić school, Dubrovnik/Croatia, Stichting Rijdende School, Netherlands)

The Working Group Schools, “pathways to school success” strand, based its discussions on the broad definition of blended learning from the Council Recommendation. This broad understanding implies that educational providers should open up the range and mix of possible learning experiences when planning the provision of varied learning experiences to meet the needs of diverse learners. The Working Group considers that the **ultimate objective of policies on blended learning should be to contribute to high-quality education that is effective, inclusive, engaging, and supportive of wellbeing**. Inclusiveness involves fair access to digital devices and connectivity as well as the design of blended learning opportunities according to diverse learners’ needs and the location of learning. Ideally, blended learning is integrated and embedded in all school activities as part of a coherent approach, including teaching, learning and assessment (both formative and summative). It should also be adapted to subjects taught, age of the learners, quality of broadband and digital devices, and so on. Teachers and other school staff need opportunities to discuss, experiment with, and work in teams to develop the potential of blended learning for inclusion.¹⁰

Working Group members started the reflection on blended learning with a self-assessment survey¹¹. The survey featured most common policy strategies adopted as well as challenges and priorities to implement blended learning in the Member States’ education systems. The main findings are summarised in the box below. It should be noted that the survey was carried out in February 2022, with responses from 11 countries. It therefore presents a snapshot of emerging responses at a country level rather than a complete view

Blended learning for inclusion – key messages from the survey of WG members

- The most common strategies to support the implementation of blended learning included targeted support, bottom-up innovations, and dissemination of good practices. Countries were particularly focussing on support for relevant teacher training and professional development (8 countries).
- At the time, implementation was mainly being achieved through existing policies and legislation, with comparatively few countries developing new policies specific to BL (3), drafting a stand-alone written strategy (2) or ring-fencing additional targeted funding (1). However, most countries indicated they planned to adapt existing strategies for BL for the longer term, in line with the Council Recommendation.
- While most countries indicated they had pre-existing measures to support schools, several indicated that new steps were taken to support effective partnerships for

¹⁰ See the discussion at the Working Group meeting on 1 February: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=39874&fromExpertGroups=true>

¹¹ In total, there were responses from 11 countries, covering policy measures, COVID-19 recovery and resilience, challenges with implementing blended learning, and promising practices.

infrastructure or resources (5), support schools with new or supplementary guidance on embedding blended learning (4), and mobilising or recruiting additional staff to provide individual school support or after-school activities (4).

- With regard to realising the potential for blended learning, priorities identified in the survey included:
 1. clearer and more consistently used definitions.
 2. mapping of blended learning approaches to national curricula to improve visibility of how blended learning can support teaching, learning and assessment and learning outcomes.
 3. more sustainable resources, including human and financial resources in schools, and improvement and renewal of digital equipment.
 4. teacher professional development and whole school approaches, including guidance and practice models for school leaders.
 5. a better and more accessible evidence base on effective blended learning approaches, with a focus on quality and inclusion.
 6. EU level policy dialogue and policy tools.

During the Working Group meetings the members identified several challenges and enablers to policies on blended learning should be to contribute to high-quality education that is effective, inclusive, engaging, and supportive of wellbeing. The **challenges** identified include:

- increasingly difficult teacher working conditions and a lack of time and support for teachers to develop their competences and to integrate blended learning approaches in their practice
- insufficient attention to learner and teacher wellbeing (as an impact of the pandemic but not only), and the need for a healthy balance of face-to-face and digital interactions
- a desire to avoid any blended learning approaches that rely extensively on digital tools given the negative perceptions of blended learning stemming from emergency and remote learning during the height of the COVID-19 pandemic
- insufficient knowledge-sharing about the approaches that make blended learning inclusive, particularly in light of inequalities which were exacerbated during the pandemic
- lack of readiness, willingness and competences to fully take advantage of blended learning as a pedagogical approach for inclusion
- absence of guidelines, materials and training that support subject- or age-specific inclusive approaches to blended learning
- a need to deepen the conceptual foundations of blended learning for inclusion.

Enablers at the school level include:

- a school-level mission and culture which is clearly focused on inclusive education and support for innovation (avoiding top-down mandates)
- school leader and teacher autonomy, confidence, and competence to make professional choices and apply blended learning techniques in an innovative way.

The successful application of blended learning may potentially make the teaching profession more attractive in recruitment of new teachers.

- meaningful engagement of professionals from diverse sectors and disciplines, to complement the work of teachers; including but not limited to youth workers, community ambassadors, cultural professionals, and representatives from the world of work.
- access to inspirational examples of effective practices and guidance materials in different subject areas and at different levels. These materials may also support teachers in the shift from teacher-centred approaches that emphasise transmission of knowledge, to learner-centred development of competences (knowledge, skills, and attitudes), where they may apply knowledge in a variety of learning environments
- school self-evaluation¹² paired with access to diagnostic tools such as the European SELFIE for schools, and the SELFIE for teachers, which may be used to identify areas for improvement in the use of digital technologies¹³.
- family and community engagement in blended learning processes, particularly for children in early childhood education and care and primary school
- possibilities, incentives and school leader support for teachers and other staff to participate in a variety of professional learning opportunities related to blended learning for inclusion (including formal continuing professional development (CPD) courses and professional collaboration within and between schools – both online and face-to-face¹⁴).

Policy makers may support schools to integrate new blended learning approaches by:

- improving teacher working conditions,
- providing the resources schools need to integrate new approaches,
- investing in appropriate technologies,
- providing relevant professional learning opportunities for school leaders, teachers, and other staff,
- providing national portals featuring school-wide approaches to integrating blended learning for inclusion.

¹² Blended learning of high quality and inclusive primary and secondary education. Handbook, 2021: <https://op.europa.eu/en/publication-detail/-/publication/82b511f9-3089-11ec-bd8e-01aa75ed71a1/language-en/format-PDF/source-240857709>, page 32.

¹³ <https://education.ec.europa.eu/selfie>

¹⁴ For example, research with over 400 students from the first and second cycle of primary education, their parents and teachers, found that cooperation between teachers was a common factor where blended learning proved effective during the Covid-19 crisis, while concluding that it is necessary to continue developing schools as networks of collaborators, among parents, students, and in the local community. The research was designed in cooperation between the Institute of Psychology and the Institute for Social Research from Zagreb, Croatia, as a part of the regional project of Croatia, Slovenia and Serbia.

2. Key messages

The Working Group schools identified a number of key messages for international and national/regional policy makers, as well as for school leaders and their teams.

Policy makers at international and national/regional/local levels, as well as school and community leaders and teachers all have roles to play in supporting innovative and effective approaches to teaching, learning and assessment in blended learning environments.

- ***EU-level policy makers can support blended learning in formal school education by:***

1. *Communicating the aims of the EU approach to blended learning and how it can support quality and inclusive education.*

Blended learning is an important approach to adaptive and innovative teaching, learning and assessment in schools, online and in communities. The aims of blended learning should be to support inclusion, learner engagement and wellbeing for all, and broad competence development.

2. *Providing opportunities for continued international peer learning and research on effective blended learning policy and practice.*

A systematic mapping of the state-of-the-art in blended learning in different Member States can help identify opportunities for country-level peer learning. This may include information on the extent to which blended learning is highlighted in initial and continuing teacher education, how it features in school monitoring and evaluation, dissemination of good practices, and other strategies. International research on the way in which blended is conceptualised in different countries and at different school levels, and evidence on effective “blends” for different learners and in different contexts can facilitate innovation and further development. Furthermore, research outcomes need to be made available and accessible to a wide audience of policy makers and practitioners.

Examples of system-level support for blended learning

(see also Section 3, examples 1-11)

- international research and policy advocacy (The European Trade Union Committee for Education, the European Agency for Special Needs and Inclusive Education and the Association for Teacher Education in Europe)
- training, support and action research for teachers to implement blended learning (Cyprus, Austria, and Italy)
- public private partnerships to support innovations in education (Estonia)
- national investments to ensure equity of access to diverse learning opportunities (Malta and Portugal)
- project-based funding for school and school-network innovations in blended learning (Italy)

- **Country-, regional- and/or local-level policy makers can create conditions for effective blended learning by:**

3. *Ensuring that school leaders and teachers have the time and flexibility to innovate.*

Policy makers in Member States set intended learning outcomes and design curricular frameworks. Policy makers can ensure that curricula highlight the importance of learning in different environments, and that different learner needs are accommodated, while maintaining autonomy for schools to design and implement pedagogies that best serve the needs of their learners and communities, as appropriate to the national context.

Curricula and time-structures need to be flexible enough to cater to the different needs of learners. Blended learning opportunities may be integrated and embedded across curricula, with attention not only on *what* should be taught but also on *how* learning should take place (e.g. active approaches). Curriculum overload should be avoided, so that school leaders and teachers have the time and flexibility they need to innovate, including in designing blended learning opportunities. This may include opportunities for cross-curricular teaching, as well as learning inside and outside of regular school hours.

4. *Sharing the results of research, pilot projects and good practice examples on blended learning for inclusion.*

Effective policies are grounded in evidence and tested in pilot schools. National good practice databases with examples of effective blended learning approaches at different school levels can illustrate how blended learning can support specific learning aims, address diverse learner needs, and inspire teachers to try new approaches in their own contexts. There is also a wealth of evidence upon which to draw from alternative education and second chance schools, to inspire practices within the mainstream. Policy makers can develop criteria and standards to assure quality of examples shared.

5. *Ensuring that schools have sufficient financial resources to support blended learning design, implementation and evaluation.*

Blended learning, whether online or in the community, requires sufficient financial and human resources. Investments in digital devices and content or non-digital tools to facilitate learning in different settings will be important. Access to appropriate expertise (e.g. for special education needs, multi-lingual learning and so on) is essential. In addition, teachers and other school staff will benefit from investments in continuing professional development opportunities on blended learning pedagogies.

6. *Ensuring that school leader and teacher standards, competence frameworks and/or professional profiles reflect the range of skills needed to facilitate effective blended learning.*

Teacher standards and competence frameworks set out key elements of teacher quality. They provide visibility to expectations for individual and collective professional learning, and for engagement with learners and their parents or carers, and with the broader community. They also provide a way to update expectations related to school leaders' and teachers' roles and their development needs in initial and continuing education. Teachers need to know not only how to teach subject content, but also how to design, select and implement learning experiences that blend technologies and environments in accordance with needs, context and learning outcomes.

The degree of initiative, creativity and autonomy that are needed for successfully applying blended learning can also contribute to making the teaching profession more attractive and recruiting and retaining talent to the profession. Attention to teacher wellbeing is a central consideration in this regard. In incorporating blended learning approaches, it is paramount to ensure that these approaches enrich educational

experiences, enhance student-teacher relationships, and diversify teacher education pathways, while avoiding unintended negative impacts on teacher workload.

7. Encouraging and creating incentives and opportunities for professional learning opportunities related to blended learning, for both school leaders and teachers.

This can include formal continuing professional development courses and collaboration within and between schools, for example: access to centres of expertise, teacher professional learning communities, staff exchanges and peer learning, etc.

● ***School leaders and their teams can support blended learning by:***

8. Supporting a culture of collective engagement and responsibility within their school

School leaders play an important role in engaging members of the school community to fulfill their shared mission to support learning and wellbeing for all (learners, teachers and school staff included). Using strategies of distributed leadership, school leaders may draw on the complementary competences of school staff to support mutual learning, to create new and innovative opportunities for blended learning for inclusion, and to build the efficacy of the school community with new approaches over time. Teachers may also be encouraged to take on leadership roles within their schools. Developing a shared vision for blended learning and ensuring strong communication between schools, parents and learners is also essential.

9. Mobilising resources within the school and community.

School leaders play important roles in bringing in new resources and forging new partnerships with members of the broader community. With teachers, they may ensure that resources are used effectively to promote goals for blended learning and inclusion. An *empowerment approach* which supports autonomous decisions within a collaborative school culture¹⁵ and draws in more resources to work in partnerships with teachers should be applied where possible (e.g., parents, local community partners).

10. Encouraging participation in networks.

School leaders may encourage staff to participate in networks which bring together different types of experts and may have different areas of focus. Networks may support collaboration among school leaders and school communities and with community partners. They also provide opportunities for collective learning.

¹⁵ Blended learning of high quality and inclusive primary and secondary education. Handbook, 2021: <https://op.europa.eu/en/publication-detail/-/publication/82b511f9-3089-11ec-bd8e-01aa75ed71a1/language-en/format-PDF/source-240857709>, page 108.

Examples of school-community partnerships

(see also Section 3, examples 12-18)

- community-sponsored initiatives to engage children and support learning (Dubrovnik City Council)
- engagement of community professionals in school-based learning (Future Maker Programme Estonia, Ivan Gundulic school, Dubrovnik/Croatia)
- use a variety of learning environments in and outside the school (Waldorf School, Zagreb/Croatia, Dannewerk Schule, Schleswig/Germany, Comprehensive School Giovanni XXIII of Ariceale/Italy, La Lecon Verte, Belgium)

3. Country and stakeholder organisation examples

In this section, several examples of how policy makers and school, community and business leaders support blended learning for inclusion are set out. The diversity of examples underlines the complexity of this area – and the need to explore further the concepts that underpin effective practice. This includes the impact of different blended learning approaches on different learners, how blended learning can be integrated in different subjects and at different grade levels, and other research questions.

3.1. System-level support for blended learning for inclusion

Working Group members emphasise that national education ministries can support and promote but cannot require schools to integrate blended learning approaches. While education governance structures vary across the Member States, there is a consistent focus on school and teacher autonomy to decide on the methods they will use to support pupil learning, so long as these align with curricular aims and intended learning outcomes and ensure inclusion.

As highlighted in Key messages 3 to 6, ministries can ensure that they create conditions to support schools and teachers as they integrate new blended learning approaches. Ministries may also actively support blended learning in digital and face-to-face learning environments, for example, through provision of resources and support for universal design for learning which enables all learners to succeed, targeted projects, continuing professional development for teachers and school leaders, good practice data bases, and recognition of school and classroom innovations integrating blended learning in external evaluations.

Examples of system-level support for blended learning shared in the different Working Group sessions on blended learning touched on:

- international research and policy advocacy (The European Trade Union Committee for Education, the European Agency for Special Needs and Inclusive Education and the Association for Teacher Education in Europe)
- training, support and action research for teachers to implement blended learning (Cyprus, Austria, Italy)
- public private partnerships to support innovations in education (Estonia)
- national investments to ensure equity of access to diverse learning opportunities (Malta and Portugal)
- project-based funding for school and school-network innovations in blended learning (Italy).

3.1.1. International research and policy advocacy

International stakeholder organisations can support international peer learning and research within their remits (key message 2), while also supporting advocacy for sound policies at European and national levels. Both the European Trade Union Committee for Education (ETUCE) and European Agency for Special Needs and Inclusive Education (EASNIE) contribute to the knowledge base on effective policies and practices related to blended learning for inclusion.

Example 1: The European Trade Union Committee for Education (ETUCE), which represents 11 million members in 127 education trade unions in 51 countries, has issued a statement on conditions for effective blended learning¹⁶ including:

- meaningful social dialogue and consultation with teachers about their own needs, and seeking their input on how curricula may be adapted to address the needs of students more effectively
- blended learning should not replace face-to-face interactions
- decent working conditions and attention to health and safety.

ETUCE emphasises that as teachers integrate blended learning approaches the following principles need to be kept in mind:

- Teacher autonomy is most effective when it is based on mutual trust between policy makers and practitioners. Teachers with autonomy are better able to adapt lessons to the community context, and to individual learner needs – thus supporting inclusion.
- A multi-professionalism approach leverages the complementary competences of school staff to: create a strong learning environment for both learners and teachers; highlight the importance of pedagogical expertise; and provide the necessary support for inclusive education.
- Investments in initial and continuing teacher education are needed both to support blended learning approaches and in general. School leadership and planning is essential to ensure that teachers take advantage of opportunities for professional learning.¹⁷

These principles underscore the importance of investing in teachers, supporting them to develop their efficacy with new approaches, and building and sustaining trust as an important ingredient in the change process.

Example 2: The Association for Teacher Education in Europe (ATEE) advocates for policies to support teachers to develop their competences for integrating blended learning. ATEE supports the idea that teachers should make good use of the school, its environment and individuals in the community. Some examples are:

- Active engagement of parents to give guest lessons, act as co-teachers, participate in hybrid lessons
- Collaboration between pre-service and in-service teachers, to provide direct experience of blended learning approaches and to offer support and guidance
- Using problem-based approaches to explore current local, national, regional issues, or issues that have an immediate impact in the school environment itself
- Visits to (public) institutions and organisations, short internships
- Schools as multi-tenant buildings where community activities take place.

¹⁶ <https://www.csee-etu.org/en/resources/statements/4633-etu-position-on-the-proposal-for-a-council-recommendation-on-blended-learning-for-high-quality-and-inclusive-primary-and-secondary-education-november-2021>

¹⁷ Presentation at the Working Group Seminar 8 March 2022: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=39894&fromExpertGroups=true>

ATEE promotes a variety of models for effective teacher learning, including discussion and reflection, collaboration, and authentic experiences. (Research references on teacher education and blended learning can be found Annex 1).

Example 3: The European Agency for Special Needs and Inclusive Education (EASNIE) shared insights from research, in particular from two 2022 projects EASNIE was engaged in and which are relevant for blended learning: the Building Resilience through Inclusive Education Systems (BRIES) project¹⁸ which focused on learning from the COVID 19 pandemic, and a project on Inclusive Digital Education¹⁹.

The evidence on blended learning reveals the complexity of this area, and the need for further research on the appropriate mix – or blend – of digital and face-to-face learning for different learners. Some key research findings are that

- learners in blended learning environments show a significant increase in their average academic achievement compared to learners in face-to-face learning environments.²⁰ For learners with special education needs (SEN), alternating between face-to-face and distance learning can be stressful.²¹
- for some students, ongoing distance education or distance learning may be an appropriate long-term accommodation. Distance counselling may also be of benefit to some learners, who find that interacting online feels safer
- new forms of vulnerability arise from the progressive digitalisation in education
- most studies focus on technology for specific learner groups and not on how technology supports families, teachers and schools to create inclusive learning environments.

EASNIE advocates for leaders at all levels to take responsibility for enabling blended learning and other digital solutions for learners vulnerable to exclusion. A flexible “ecosystem” model and universal design which considers the needs and preferences of different learners and the learners’ and schools’ specific contexts may support a holistic approach to change.

At the national level, this may include funding and other support for innovation, investments in teachers’ digital competences, as well as monitoring of digital transformation and inclusiveness. Approaches should be based on Universal design/Design for all so that learning content and environments can meet the needs of all learners. EASNIE also notes that attention to the ethical implications of using new technologies in education (e.g. Artificial Intelligence), particularly in inclusive settings, is needed.

3.1.2. Training, support and action research for teachers to implement blended learning

Working Group members shared examples of support for teachers to implement blended learning. These programme developed a particular emphasis on digitally supported learning environments.

Example 4: The Cyprus Pedagogical Institute (CPI) of the Ministry of Education, Culture, Sport and Youth (MOECY) has a mandate to promote innovative digitally-supported

¹⁸ <https://www.european-agency.org/activities/BRIES>

¹⁹ <https://www.european-agency.org/resources/publications/inclusive-digital-education>

²⁰ Saritepeci, M., & Çakır, H. (2016). The Effect of Blended Learning Environments on Student's Academic Achievement and Student Engagement : A Study on Social Studies Course.

²¹ Lütje-Klose, B., Geist, S., & Goldan, J. (2021). Schulschließung während der Covid-19-Pandemie. Perspektiven auf Schüler* innen mit sonderpädagogischem Förderbedarf. *Psychologie in Erziehung Und Unterricht*, 68(4), 292–296. <https://doi.org/10.2378/peu2021.art25d>

education. CPI provides various initiatives to support schools and their staff, as well as parents, to integrate digital technologies in teaching, learning and assessment (see key messages 2 – 9). These include:

- *The Innovative schools and Teacher coaches educational programme and the eSafe Schools programmes*, based on the SELFIE Pedagogical Innovation Assistant Toolkit. Schools may diagnose their digital needs, set priorities, and develop concrete action plans. The Toolkit highlights the importance of developing digital competence across the whole school, and for ensuring that professional development is well aligned with actual needs. The SELFIE Toolkit was developed as part of the international ERASMUS+ project known as SHERPA.²²
- *Digital Competence Development for Educators' Programme* is offered to in-service teachers, following a distance learning approach and methodology within CPI's eLearning Environment.
- *In-service training programme for school leaders* highlights the importance of school leadership in developing teachers' digital competences.
- *Blended form courses combining face-to-face and online learning* uses a Moodle platform to provide educators and trainees with an integrated system for personalized learning.
- *Digitally supported Learning*, currently under development, will support a physical and online learning space for educators and trainees. It will introduce digital technologies and learning approaches which may be adapted to different learning environments.²³
- *Open educational resources* are promoted by the CPI through seminars, trainings and programmes²⁴

Example 5: In **Austria**, the Federal Ministry of Education, Science and Research has developed a [Distance Learning Service Portal](#)²⁵, initially as an ad-hoc service for teachers to facilitate distance learning during the pandemic, which has now become a support platform for schools in their school development (see key message 4). The portal includes introductory webinars (e-Lectures), online seminars, online coaching units and a massive open online course (MOOC) on distance and blended learning that is now available as a self-paced learning course for teachers.

Example 6: Distance learning will continue to be important for learners who are not able to attend school regularly due to physical and/or health-related challenges. The **Italian National Research Council's** Institute for Educational Technology used action-research on inclusive hybrid classrooms to support innovation in the educational context (key messages 4, 5 and 9). This action-research project explored, inter alia:

- Didactic-pedagogical approaches to fostering active involvement of the homebound student in learning activities and social interactions with their classmates. Teachers need to develop new ways to manage classroom activities within the hybrid learning context.
- Sustainable technological infrastructure in classrooms and in the learner's home setting.

²² <https://selfieptk.eu>

²³ <https://digilearn.pi.ac.cy>

²⁴ Presentation at the Working Group Seminar 8 March 2022: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=39894&fromExpertGroups=true>

²⁵ <https://serviceportal.education.at/>

- Organisation of the classroom and home spaces, including new routines and organisation of teaching times.

Project results point to the importance of: allowing every student to participate in daily activities of the classroom to the extent possible; promoting a sense of belonging and social participation; and providing personalised learning activities while also supporting learning with the peer group for majority of class time.²⁶

Example 7: In the **Netherlands**, the national government makes funds available through support regional alliances, partnerships between schools for primary and secondary education and university-based teacher education. The programme is known as ‘*samen opleiden, professionaliseren en onderzoeken*’ (‘training, professionalizing and researching together’). As an example for its regional roll-out, the town hall in Utrecht hosts meetings for teachers to share their ideas. This is combined with teachers conducting research examining whether their teaching styles and approaches are effective.

3.1.3. Public private partnerships to support innovations in education

Example 8: In **Estonia**, blended learning in digital and face-to-face environments is well established. Taking studies outside of a regular classroom, for example learning science in a museum, forest or a bog was a widely spread practice well before COVID-19 (see key message 3). The vast majority of schools use various digital resources, and all learners are granted access to free digital learning materials. The state-provided e-schoolbag includes digital learning materials and tools for basic and vocational education. Digital textbooks for all study levels for all study levels and all subjects are also provided by private companies and can be used as an alternative to traditional books by all schools. Easy access to these materials ensures that parents, teachers, and children have access to learning materials and have opportunities to collaborate (key message 5).

Digital education in Estonia benefits from the public-private partnership of the national Ministry of Education and Research and private ICT companies. It is a collaborative approach, with digital education tools typically co-created by schools, universities, and private companies. Because private companies and university education researchers frequently work together, education technology is underpinned with sound pedagogical and content knowledge and an understanding of user needs (i.e., the needs of educators and learners).

There are various private companies offering similar e-services in the market, so every school or school owner can choose the providers that offer the services that fit their needs the best. This creates competition and ensures the best possible services.

3.1.4. National policy frameworks and investments to support blended learning for inclusion

Working Group members note that many Member States have made significant investments in digital tools and infrastructure, particularly since the pandemic (e.g., Austria, Belgium (Fr), Croatia, Estonia, Finland, the Netherlands, Poland). They have also supported classroom innovation. For example, the Netherlands invested €1 million for schools to develop digital infrastructure, stimulate digital learning, and explore blended learning outside the classroom.

²⁶ Presentation at the Working Group Seminar 8 March 2022: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=39894&fromExpertGroups=true>

Example 9: An example of how national-level investments can support inclusion was provided by **Malta**, which has also made significant national investments in digital learning (key message 5). These investments have supported: new ways of interacting and with learning materials and collaborating with peers and teachers; opportunities for learners to reinforce learning, for example through online catch-up classes; tools for learners to create personal digital artefacts; apps for classroom-based learner assessment and online monitoring of learner progress to identify at-risk learners and so on.

National digital initiatives include:

- the distribution of tablets and pedagogical content to all year 4, 5 and 6 pupils as part of the national strategy to prevent early school leaving. Among other benefits, the tablets support monitoring of pupil engagement and introduction preventative measures.
- introduction of adaptive technologies, including virtual reality headsets, exam reader pens for learners with dyslexia.
- support for digital literacy for all learners, including through Robotics week, EU Code week; Family Code night; Safer Internet Day, and other initiatives.
- encouraging the use of tablets outside classrooms (e.g. for outdoor fieldwork or in the community).

These initiatives are underpinned by a national commitment to inclusion and diversity, where the aim is to ensure that education is based on equitable and socially justice processes and practices. Diversity is defined as including cognitive and learning diversity; multiculturalism and language diversity; religion and belief diversity; socio-economic diversity; gender and sexual diversity; and physical and psychological diversity.

Example 10: In **Portugal**, the national Ministry of Education promotes blended learning and interdisciplinarity to develop learner competences and to achieve a quality and inclusive education. Schools have flexibility and autonomy to adapt approaches as appropriate for the school context and for individual student needs. For example, schools are also encouraged to use interdisciplinary or cross curricular approaches, and to develop activities with the local community to engage learners, above all those who are at risk (e.g. programmes promoting practical activities, the arts, and so on). Another example is the National Learning Recovery Plan (Plano Escola + 21|23) supporting schools to set measures that include resources, that can be adopted after diagnosis, based on an autonomous and contextualized management. These differentiated educational strategies aim at promoting success at school and, above all, at combating inequalities through education. In another example, the national framework for Distance Learning, designed to support itinerant or students unable to attend school in person for a period of more than two months for health or other reasons). (key messages 3 – 5).

The changes imposed by COVID-19 had to be addressed on a urgent basis by school-clusters. Some of them activated partnerships and provided at-risk students with the support necessary to access learning. Blended learning became a reality in many school clusters, and training became mandatory to most teachers. Schools were aware that exclusion cannot be avoided just by issuing digital equipment, and therefore whole-school approach measures were taken in order to safeguard the conditions needed to promote inclusion.

3.1.5. Project-based funding for school and school-network innovations in blended learning

Example 11: In **Italy**, in 2021, the Ministry of Education (MI) published a call for tenders inviting schools to submit innovative projects on plurilingual pedagogies combining online and on-site learning. The overall goal of the project was to improve: language learning for all learners, inclusion, and use of both digital and non-digital resources.

The project fostered an action-oriented approach to learning. Teachers were encouraged to develop scenarios from daily life – in different environments and using different tools (digital and non-digital). Tasks were designed based on level descriptors in the 2020 Common European Framework of Reference for Languages (CEFR) and other materials first developed at the Ontario Institute for Studies in Education (OISE), University of Toronto. The scenarios included sub tasks at varying levels of complexity, allowing all learners according to take part.

Three school networks implemented the project in different regions . These included a 16-school network in Lombardy; an 18-school network in Lazio; and a 17-school network in Campania composed of 17 schools. Each of the networks had designated a lead school, and leadership for different project elements was distributed across the participating schools.

The project was recently concluded. Early evaluation feedback indicates that all participants are positive about the project. Low-achieving learners, in particular, have improved learning outcomes with the blended learning approach.

The success of the project is attributed to the readiness of participating school leaders to establish networks. Within these networks, schools have become more autonomous. Exchanges within the different networks have allowed schools to improve effectiveness of existing practices and to implement innovative teaching approaches. The school leaders have also acted as pedagogical leaders. They have encouraged teachers to reflect on and question their professional practices, to deepen and improve practices including for blended learning.

3.2. School and community partnerships to support blended learning

Partnerships between schools and their wider communities may present new opportunities for blended learning in a variety of learning environments. Indeed, communities share responsibility for the development of children and young people (key message 8).

Examples of school-community partnerships shared during the Working Group sessions include:

- community-sponsored initiatives to engage children and support learning (Dubrovnik City Council)
- engagement of community professionals in school-based learning (Croatia, Estonia)
- use a variety of learning environments in and outside the school (Waldorf School, Zagreb/Croatia, Dannewerk Schule, Schleswig/Germany, Comprehensive School Giovanni XXIII of Ariceale/Italy, La Lecon Verte, Belgium)

3.2.1. Community-sponsored initiatives to engage children and support learning

While the *Council Recommendation on blended learning approaches for high-quality and inclusive primary and secondary education* addresses formal education, the value of non-formal and informal learning opportunities is also recognised.

Example 12: In **Dubrovnik**, which has been designed as a “Child friendly city”, several activities have been developed to support children and youth to develop critical thinking and knowledge about democracy and participation in decision-making on issues and activities important for children. These activities include the Children’s City Council and elected children’s mayor. They cooperate with teachers, parents, retired people, social works, activities and other volunteers (key message 9).

3.2.2. Engagement of community leaders in school-based learning

Frequently, community members are invited *in* to schools to support specific teaching and learning aims (key messages 7 and 8). Working Group members found examples of this in the The Future Makers NGO in Estonia (example 13) and in their visit to the Ivan Gundulić primary school in Dubrovnik (example 18). It should also be noted that schools that use a variety of learning environments in and outside the school (examples 14-17) frequently from close links with community partners.

Example 13: The Future Makers NGO in **Estonia** encourages community members and professionals to engage with learners both in schools and workplaces. The underlying idea of this programme is that everyone has a skill they can teach. Community members who wish to be involved are invited to propose a lesson plan on a topic they would like to introduce as a guest lecturer. The lesson may be registered on the project platform, where schools will be able to find people with whom they would like to collaborate. Community members may also support “job shadowing”, or study visits for learners (key message 9).²⁷

3.3. School level approaches to blended learning for inclusion

The school examples that were showcased during the different working group sessions covered different “blends”, with one approach of course not excluding the other.

These included the following:

- Blending school site and other physical environments away from the school site (Waldorf School, Zagreb/Croatia, Dannewerk Schule, Schleswig/Germany, Comprehensive School Giovanni XXIII of Ariceale/Italy, La Lecon Verte, Belgium)
- Blending different [digital](#) and non-digital learning tools (The Ivan Gundulić school, Dubrovnik/Croatia, Stichting Rijdende School, Netherlands).

3.3.1. Blending school site and other physical environments away from the school site

Example 14: The **Waldorf School, Zagreb** sees learning in different environments as important for each child’s individual development and self-discovery (key message 8).

²⁷ Further information on Future Makers is available at: https://www.educationestonia.org/services-and-products/?service_types%5B%5D=181 and at <https://tulevikutegijad.ee/>

These ideas underpin a philosophy and approach to learning. As defined by the school leader from Waldorf school in Zagreb, blended learning is the integration of experiences, including through “hands, heart and head”. Its key aim is to provide learners with a sense of coherence and of wellbeing, and to help them find their own direction in life. Learning is to be inclusive, tailored to the individual and to also support collaboration. The youngest learners should feel that they are cared for and secure. As they get older, learners need support and guidance. As adolescents, they need to develop resilience and their sense of meaning.

The Waldorf School in Zagreb promotes a holistic approach to learning by giving learners space to ask questions about the world around them, and to nurture their sense of wonder. Engagement in the environment around the school and with social projects in the community are an important part of this.

Example 15: The **Dannewerk Schule in Schleswig, Germany** has developed a very deliberate approach to the use of different spaces within and around the school to support inclusive approaches to learning (key messages 8 and 9). The school, which is in a socio-economically disadvantaged area, places an emphasis on joint, digitally assisted, academically and pedagogically challenging learning. The school serves students with special education needs, students with a migrant background, students from educationally disadvantaged homes, and gifted students.

Teaching methods highlighted include student collaborative work, teaching with hands-on experiments, enquiry, work-placed learning, group work, self-guided learning, learning through volunteer work such as the “Handysprechstunde für Senioren”, e.g. a consultation hour to teach cell phone proficiency to elderly people, learning through social projects etc.). In addition to classrooms (all of which are equipped with wi-fi and presentation media), the school takes advantage of various spaces for learning. For example, the school garden is used alternately as a student research center, an open stage, as an outdoor learning space, or as a place to rest.

Teachers at the Dannewerk Schule have formed a professional learning community to develop teaching methods. They use a digital teachers’ room to exchange ideas and share resources. The school also participates in networks with schools, community partners, institutions with expert knowledge, universities, cultural institutions, local employers and so on.²⁸

Example 16: Other examples explored by the Working Group also highlighted the importance of varied learning environments. Teachers at the **Comprehensive School Giovanni XXIII of Ariceale** school cluster in Sicily (early childhood education and care through secondary school levels) integrate lessons in the outdoors, with a focus on active, cooperative and problem-based learning in indoor and outdoor spaces in and around the school. Local partnerships (e.g. the local library) have also been important. Teachers in the school collaborate to develop multi-disciplinary lessons, taking into account the needs of diverse learners (key messages 8 and 9).²⁹

Example 17: The non-profit organisation **La Leçon Verte programme** in Belgium offers outdoor educational activities for children, so that they can learn in new ways and in an inspiring environment. It supports primary-level schools once a month over the course of a

²⁸ Presentation at the Working Group Seminar 8 March 2022: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=39894&fromExpertGroups=true>
Further information on the Dannewerk Schule is available at: <https://www.schooleducationgateway.eu/en/pub/resources/toolkitsforschools/detail.cfm?n=30045>

²⁹ Presentation at the Working Group meeting 2 February 2022: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=39874&fromExpertGroups=true>. Further information on the Comprehensive School Giovanni XXIII of Ariceale can be found on <https://www.schooleducationgateway.eu/en/pub/resources/toolkitsforschools/detail.cfm?n=6084>

school year to develop learning outdoors. La Leçon Verte helps teachers to find new ways to teach subjects such as mathematics or French in an outdoor context. The programme has shown that there is an improvement in children's social and emotional learning skills and their personal relationships when they interact with the natural environment (key messages 7 and 8). One of the schools that engages in these activities is Martin V, a primary school in Louvain-la-Neuve, Belgium.³⁰

3.3.2. Blending different digital and non-digital learning tools

Example 18: The **Ivan Gundulić primary school (grades 1 – 8) in Dubrovnik** has a strong focus on supporting children's individual and social wellbeing. Several courses aim to help learners to develop life skills. The school staff support children's physical and mental health through their work with multidisciplinary professionals in the community. As an example, the school offers lessons on the harm of addictive substances. During the Working Group visit to the school, a police officer was visiting a year 8 classroom to discuss preventative measures and ways to avoid exposure to potential addictions (e.g. smoking, alcoholism, and drugs). That same morning, another police officer was teaching year 1 pupils about traffic safety – and building a positive relationship with the children (who were excited to be allowed to set off the police car siren (briefly!)).

In another example, the school's "Healthy Friday" project involved children and their parents in learning about nutrition and the importance of healthy habits. Following this project, learners reported that they had improved their eating habits – eating fewer sweets, more fruit as well as a balance of whole grains and proteins.

During COVID related restrictions and school shutdown, the school librarian created "Zoom story" (i.e. librarians would read stories in Zoom rooms) for grade 1 and 2 learners. Zoom story has continued with the return to in-person learning and is complemented with story sessions in the school library. The school also has a tradition of inviting authors of children's favourite books to the school, and this tradition continued via Zoom during shutdown.

Learners may also integrate digital and non-digital learning in school projects. As one example, upper-level learners wrote and filmed an anti-bullying "public message".

Example 19: The **Stichting Rijdende School**³¹ in the Netherlands has developed blended learning to support inclusion of children of showmen and circus artists and workers. The school mixes distance and face-to-face learning in mobile classrooms (e.g. trucks which are equipped with learning materials, including digital devices). Classes may include children of different ages and levels. Teachers, learners and their parents have access to an online platform where they are able to share materials (key messages 8 and 9).

³⁰ Presentation at the Working Group meeting 2 February 2022: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=39874&fromExpertGroups=true>. A video about La Leçon verte can be found at: <https://www.schooleducationgateway.eu/en/pub/latest/practices/la-lecon-verte-outdoors.htm>

³¹ Presentation at the Working Group meeting 2 February 2022: <https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=39874&fromExpertGroups=true>. A video about the Stichting Rijdende School can be found at <https://www.schooleducationgateway.eu/en/pub/latest/practices/rijdende-school.htm>

4. Conclusion

This report has shared the results of Working Group discussions on blended learning for inclusion. Group members have considered challenges and enablers to integrating blended learning in schools and developed key messages for policy makers at international and national/regional levels, as well as for school leaders.

Working Group members shared diverse examples of good practice in blended learning for inclusion from their own countries and organisations. These examples shared have helped to illustrate the broad definition in the Recommendation on blended learning. The Group highlighted the importance of teacher autonomy, facilitated by school leaders, opportunities for collaboration within and across school networks, access to appropriate professional development and school-level resources to implement new approaches. Effective blended learning for inclusion reflects the school and community context, and ability to adapt learning to individual learner needs and interests. Teacher know-how on how to select, adapt or create new blends also needs to be developed, as does the knowledge of school leaders in fostering a whole school approach. Opportunities for bottom-up innovation are essential to blended learning for inclusion.

The work of the Group serves as a reminder that, at a system level, countries have different starting points and different cultures and priorities, all of which shape the pathways taken in relation to blended learning. Policy opportunities vary depending on the stage in the policy cycle, resources, structural considerations, and other priorities. Similarly, at a school level, the importance of school autonomy in pedagogical development shines through, to the extent that is possible within the country context. Blended learning can be utilised in diverse ways to support a variety of learning pathways, and there is “something for everyone”.

Based on the discussions in the Working Group, a number of resources on blended learning for teachers and the wider education stakeholder community are referenced in this report. Some of them, along with courses for teachers, have already been and will continue to be made available on the School Education Gateway/European School Education Platform³².

The Group also emphasised the importance of further developing pedagogical concepts that underpin blended learning for inclusion. Research on appropriate “blends” of different approaches in different subject areas and at different grade levels, as well for learners with diverse needs will be important. Further work on the conceptual foundations of blended learning as well research on what works, for whom and under what conditions can help schools and teachers to develop coherent approaches and to advance learning for all.

³² As of 1 October 2022, all content of the School Education Gateway is being moved to the European School Education Platform: <https://school-education.ec.europa.eu/en>

Annex 1: Recommended reading

Part 1: Research on blended learning

Research studies on blended learning identified through google scholar tend to focus on programmes that blend digital and face-to-face – or hands-on – learning. Most research has been conducted at university level, although a few references to BL at school level were also identified. Selected references to research reviews have been included below.

Research on approaches such as inquiry-based and project-based learning, alternative education, innovative learning environments are also relevant to the WG approach to BL, which includes fully analogue learning, as well. These articles do not typically use the terminology of BL, but approaches and concerns are similar. Selected references have been included below.

Publication	Summary
Blackmore, J. et al. (2010). ³³ Innovative Learning Environments Research Study	The Innovative Learning Environments Research Study identifies effective steps in the preparation for, and the transition to, new learning spaces. It provides a mapping of how teachers and students are using Innovative Learning Environments, identifying a recurring pattern of significant engagement with collaborative and flexible teaching. Professional learning and leadership are also identified as core attributes of successful development. The study highlights the need to create internal stability and professional peer accountability (Elmore 2003) within schools through professional support and development.
Cuban, L. (2009). <i>Oversold and Underused: Computers in the Classroom</i> . Harvard University Press.	Cuban points out that historical and organizational economic contexts influence how teachers use technical innovations. Computers can be useful when teachers sufficiently understand the technology themselves, believe it will enhance learning, and have the power to shape their own curricula. But these conditions can't be met without a broader and deeper commitment to public education beyond preparing workers. More attention, Cuban says, needs to be paid to the civic and social goals of schooling, goals that make the question of how many computers are in classrooms trivial.
European Commission (2021). Staff working document, accompanying the Proposal for a Council Recommendation on blended learning for high quality and inclusive primary and secondary education	The staff working document describes a vision for blended learning in school education from the perspective of the Digital Education Action Plan 2021-27 and European Education Area: its key ideas on inclusion and on Key Competence development as part of high-quality school education. It describes how these ideas are

³³ https://www.deakin.edu.au/_data/assets/pdf_file/0003/365196/innovative-learning-spaces-final-report.pdf

Publication	Summary
	<p>connected to the concepts of a blended learning and innovation and change in education. It also provides a glossary and further explanation of relevant term</p>
<p>Looney, J. (2019). Digital Formative Assessment: A review of the literature. Assess@Learning project. European SchoolNet.</p>	<p>This literature review sets out the ‘state of the art’ in international research and policy studies on digital formative assessment (DFA). Its focus is on how digital technologies may support and strengthen classroom-based formative assessment, including peer- and self-assessment. It also examines how digital formative assessment can build on what students bring to the classroom – both in terms of their prior learning and experiences outside of the classroom.</p>
<p>OECD (2010). The nature of learning. Paris. OECD Publishing.</p>	<p>What do we know about how people learn? How do young people’s motivations and emotions influence their learning? What does research show to be the benefits of group work, formative assessments, technology applications, or project-based learning and when are they most effective? How is learning affected by family background? These are among the questions addressed for the OECD by leading researchers from North America and Europe. This book brings together the lessons of research on both the nature of learning and different educational applications, and it summarises these as seven key concluding principles.</p>
<p>OECD (2013). Innovative learning environments. Paris. OECD Publishing.</p>	<p>How to design a powerful learning environment so that learners can thrive in the 21st century? OECD’s Innovative Learning Environments (ILE) is an ambitious international study that responds to this challenging question. The study earlier released the influential publication <i>The Nature of Learning: Using Research to Inspire Practice</i>. This companion volume is based on 40 in-depth case studies of powerful 21st century learning environments that have taken the innovation learning journey.</p>
<p>Smith, K. and Hill, J. (2019) Defining the nature of blended learning through its depiction in current research, <i>Higher Education Research & Development</i>, 38:2, 383-397, DOI: 10.1080/07294360.2018.1517732</p>	<p>This article takes stock of current blended learning research, contributing to the growing number of meta-analyses of higher education and blended learning research more generally, through a review of ninety-seven articles relating to blended learning in higher education published in fifteen journals between 2012 and mid-2017. It shows that despite its ubiquity, blended learning’s definition is all-encompassing; its spread is global but research is dominated by key players; it is of technical interest; and its research is small-scale, individually focused,</p>

Publication	Summary
	<p>seeking to evidence the benefits of blended learning. The article concludes with recommendations of how higher education research could provide institutions with evidence to ensure their 'best of blends'.</p>
<p>Vadeboncoeur, J.A. and Padilla-Petry, P. (2017) Learning from teaching in alternative and flexible education settings, <i>Teaching Education</i>, 28:1, 1-7, DOI: 10.1080/10476210.2016.1265928</p>	<p>Alternative and flexible education settings provide a unique vantage point on the possibilities of crafting educational spaces with and for young people, as demonstrated through the papers in this special issue. As a response to the formalization and emphasis on efficiency inherent in early twentieth century mass, compulsory schooling, alternative settings include a spectrum of educational options, from settings that differ based on educational philosophy to settings created to address the needs of a specific group of young people, and variations in between (e.g. Coughlan, Sadovnik, & Semel, 2014; Miller, 2002; Neumann, 2003)</p>

Part 2: Teacher education to support blended learning

Despite evidence concerning the widespread growth of blended teaching, there is a lack of research available on teacher education to support blended learning. For example, a 2021 article from the USA highlighted that no systematic reviews focused on preparing K-12 teachers for blended teaching could be found.³⁴ Previous literature reviews, such as those from Halverson et al. ([2012](#)) and Drysdale et al. ([2013](#)), have also noted the lack of research focused on K-12 blended teaching contexts in the USA.³⁵ From a thorough search online using different search terms³⁶, it was also found that there is a lack of research available on teacher education to support blended learning in Europe. Most of the literature focuses on blended learning generally, including its definition and importance, and using blended learning in teacher education and professional development courses (particularly in higher education), but not to support blended learning, particularly in the classroom. The sparse literature that could be found is described in further detail in the table below.

Despite the lack of research, a lot of courses and guidelines are available to teachers to support blended learning and innovative learning environments, particularly in Australia, Europe, New Zealand and the USA. A good example is [UNESCO's Blackboard Academy Sub-regional pilot project 2020](#) "Professional development for teachers for blended learning and online strategies" (a four- week teacher training course), and those European examples listed in the JRC report "Innovating Professional Development in Compulsory Education: An analysis of practices aimed at improving teaching and learning" in the table below.

³⁴ Short, R., Graham, C.R., Holmes, T., Oviatt, L and Bateman, H., 'Preparing Teachers to Teach in K-12 Blended Environments: A Systematic Mapping Review of Research Trends, Impact, and Themes', 4 July 2021, 65(6): 993–1009, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8254670/>

³⁵ Ibid.

³⁶ Search terms used on Google, Yahoo, Bing, Pubmed, Google Scholar: "teacher education to support blended learning", "innovative learning environments", "school community", "school-business relationships", "creative professionals and education", "teacher professional development", "teacher professional development to support blended learning", "collaborative learning".

Publication	Summary
<p>Moore, M., Robinson, H., Sheffield, A., Phillips, A., " Mastering the Blend: A Professional Development Program for K-12 Teachers", Journal of Online Learning Research (2017) 3(2), 145-173 (USA)</p>	<p>This paper introduces the design for a four-course professional development series on teaching in a blended learning environment that targets in-service teachers of K-12 students. <i>Mastering the Blend</i> is designed as a professional development opportunity to enhance teachers' face-to-face classroom instruction. The focus of the programme is to assist K-12 teachers in developing the skills needed to design, develop, and facilitate student-centred blended learning environments. Through hands-on experience and activities designed to uncover best practices, participants are expected to develop the ability to effectively integrate a variety of tools into a blended learning experience. To model the methods being advocated, this professional development programme is social constructivist in design and includes a blend of synchronous and asynchronous activities. The results of an initial evaluation of the programme are described in this paper.</p>
<p>OECD, "The OECD handbook for innovative learning environments", 2017, OECD Publishing.</p>	<p>This handbook provides practical tools for teachers and leaders to develop innovative learning environments. It focuses on using the principles of learning to design learning environments, the 7+3 framework, evaluative thinking, and transformation and change in learning ecosystems.</p>
<p>Philipsen, B., Tondeur, J., Roblin N.P., Vanslambrouck, S., "Improving teacher professional development for online and blended learning: a systematic meta-aggregative review", January 2019, Educational Technology Research and Development 67, 1145-1174</p>	<p>This study highlights that in order to fully realise the potential of online and blended learning (OBL), teacher professional development (TPD) strategies on how to teach in an online or blended learning environment are needed. While many studies examine the effects of TPD strategies, fewer studies target the specific important components of these strategies. This study addresses that gap by conducting a systematic review of qualitative data consisting of 15 articles on TPD that targets OBL. Using a meta-aggregative approach, six different synthesised findings were identified and integrated into a visual framework of the key components of TPD for OBL. These synthesised findings are the base for the action recommendations which present specific and contextualised suggestions. Taken together, the findings can inform in-service teachers and trainers, together with further research and development efforts that are concerned with TPD for OBL.</p>
<p>Powell, A., Rabbitt, B., Kennedy, K., iNACOL Blended Learning Teacher Competency Framework, 2014. (USA)</p>	<p>Schools and districts in the USA are asking for more support for understanding teachers' new roles and effectively supporting them in transitioning to new models of teaching and learning. To respond to this need, the International Association for K-12 Online Learning (iNACOL) and The Learning Accelerator (TLA), two organisations committed to helping educators succeed at adopting and implementing blended learning at scale, assembled a national committee of blended learning</p>

Publication	Summary
	<p>practitioners, thought-leaders, and experts to explore one critical question: What are the key characteristics of teachers in successful blended learning environments?</p> <p>In 2014, this committee worked together to review existing practices and research (including an earlier framework developed by TLA), to develop emerging hypotheses with each other and then field-test them with a broader set of external stakeholders. This process culminated in the development of the work presented here, the iNACOL Blended Learning Teacher Competency Framework. This Framework offers a clear but flexible starting point around which to observe emerging practice and organise teacher development and training resources.</p>
<p>Roszak, M. and Kolodziejczak, B., "Teachers' Skills and ICT Competencies in Blended Learning", 2017, only abstract (HIGHER EDUCATION)</p>	<p>The paper presents the analysis of teachers' skills and ICT competencies necessary for teaching in a blended learning environment and for organising the learning process that involves university e-courses. The areas of special importance include learning materials, organisation of learning groups, organisation of knowledge evaluation, one-to-one communication, as well as communication with a learning group. The paper reviews the areas, pointing to certain essential components which are necessary for the teaching process with a Learning Content Management System (LCMS).</p>
<p>Vuorikari, R., "Innovating Professional Development in Compulsory Education: An analysis of practices aimed at improving teaching and learning", JRC Science for Policy Report, 2019.</p>	<p>The study collected 30 innovative and emergent practices of teacher professional development and other forms of teacher professional learning that help teachers to meet today's needs in terms of covering pertinent topics for which teachers say they have a need. The paper identifies a number of examples for teachers to re-invent blended learning, namely:</p> <ul style="list-style-type: none"> • E-competent teacher (SL): Blended online delivery with practical hands-on session https://www.ouslovenia.net/project/slovenianeducational-network-teachers-training/ • Mediacoach (BE): a programme to foster Media multipliers in educational organisations https://mediacoach.mediawijs.be/ • eTwinning (EU): mixing classroom practices and digital components to acquire cross-curricular and multilingual competences www.etwinning.net • Education Plaza (IS): connecting teachers in a sparsely populated country http://menntamidja.is/education-plaza/ <p>iKlasė (LT): Informal teacher network providing professional learning opportunities http://www.iklase.lt/</p>

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