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PART 2/5

COMMISSION STAFF WORKING DOCUMENT

Accompanying the document

Proposal for a Council Recommendation

on blended learning for high quality and inclusive primary and secondary education

{COM(2021) 455 final}

2. Blended learning and educational change

2.Blended learning and educational change

This chapter defines blended learning in the context of the Recommendation and describes what it can look like in school education. It describes a vision for school education from the perspective of the Digital Education Action Plan 2021-27 and the 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 connected to the concepts of blended learning and innovation and change in education. It also provides a glossary and a further explanation of relevant terms.

2.1 A history and a vision of blended learning

2.1.1 What is blended learning?

A blended learning approach can be applied in a variety of combinations, as appropriate to the age, capacity and circumstances of the learners and intended learning outcomes. Blended learning in formal education happens when a school, educator or learner takes more than one approach to the learning process:

- **Blending school site and distance learning environments**
- **Blending different learning tools that can be digital (including online) and non-digital**

Using their professional judgement, teachers and schools will select and facilitate the use of these as part of engaging and effective learning tasks that support broad competence development.

Regardless of the age of the learner, and regardless of whether the teacher and pupils are in a shared physical space or not, the teacher is a constant and critical presence in the learning process. They design the approach and select the blend of environments and tools; they explain the tasks; they are active in the tasks when appropriate; and they review the learning progression after the tasks.

Blended learning can be an approach at the micro level - in a single learning process with a group of learners - , the meso level - a strategic approach by a school to facilitate blending learning -, and the macro level – embedded as a system-wide approach. It may also be called a "hybrid" approach or a more specific term relating the environment or tool being used, such as "online learning".[1] [2] [3] [4] [5] [6] [7]

[1] Hall, H., & Davison, B. (2007). Social software as support in hybrid learning environments: The value of the blog as a tool for reflective learning and peer support. *Library & Information Science Research,* 29(2), 163–187.
[2] See https://blearning-project.eu/index.php/news/18-transnational-needs-analysis-report
[3] Hrastinski, S. (2019) What Do We Mean by Blended Learning? *TechTrends* 63, pp.564–569. https://doi.org/10.1007/s11528-019-00375-5

Supporting blended learning, whether designing and organised at system, school or classroom level, requires more than addressing teacher and learner competence and their own use of environments and tools. It requires a coherent approach by the whole of the school education system encompassing: school leadership; learning design; teacher professional development and working conditions; the collaboration between schools and the wider community; infrastructure and resources; and quality assurance.

Blending school site and distance learning environments

Learning can be facilitated both on the school site and in other physical environments away from the school site (distance learning). This is not a new phenomenon in education but could be better and more systematically integrated so that all learners can benefit from its advantages, before continuing to learn and develop throughout their lives in a rapidly-changing world.

Doing so can help to increase the inclusiveness of school education, particularly due to its flexibility, such as better provision for education in rural and remote areas, including the outermost regions and island communities, and other circumstances where young people may not attend the school site full-time (traveller communities, young carers, learner's own health issues, high performance training, or vocational training and paid work) or where specialised teaching staff are is not available locally. It can enhance competence development, due to the variety of learning approaches and environments it can engage with, including the outdoors, cultural sites, and various places of employment (work-based learning).

A blended learning approach recognises the value of school education as a collection of shared spaces for personal and social interaction, which itself is important for learning as a way of understanding and making meaning in the world. In a blended learning approach, shared-space learning – whether the same physical space or online - makes the most of the opportunity for interaction between pupils, between staff, and between pupils and staff.

Aside from broadening the scope of learning environments, a school that engages with practitioners with different expertise, and that promotes collaboration with the community, can encourage a shared responsibility for the development of young people – it is inclusive. This in turn can help young people to understand and be motivated by the relevance of formal education to their lives in society. It can support their broad competence development and increase their understanding of and engagement with local and global challenges, for instance those related to the environment and climate change.

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[4] Friesen, N. (2012) Report: Defining Blended Learning. Available at https://www.normfriesen.info/papers/Defining_Blended_Learning_NF.pdf

[5] Bryan, A., Volchenkova, K.N. (2008). Blended Learning: Definitions, Models: Implications for Higher Education. Available at https://www.researchgate.net/publication/303815166_BLENDED_LEARNING_DEFINITION_MODELS_IMPLICATIONS_FOR_HIGHER_EDUCATION/link/5b7e368992851c1e1229270c/download (accessed: 3.06.2020)

[6] Olapiriyakul, K., & Scher, J. M. (2006). A guide to establishing hybrid learning courses: Employing information technology to create a new learning experience, and a case study. *The Internet and Higher Education, 9*(4), 287–301.

[7] Hrastinski, S. (2019) What Do We Mean by Blended Learning? *TechTrends* 63, pp.564–569. https://doi.org/10.1007/s11528-019-00375-5

All learning environments need to be safe and well-functioning, contributing to teachers' and pupils' well-being, as well as the learning outcomes. Physical spaces for learning, whether they are located on or off the school site, should be accessible to children with disabilities and from socio-economically disadvantaged areas and not lead to discrimination or segregation.

Blending different learning tools that can be digital (including online) and non-digital

For the purposes of the Recommendation, online learning is defined as that which takes place with the use of digital technology to connect different devices and to facilitate an interaction between the learner and: other learners; learning programmes and platforms; and other content as sources of information. When designed well and used effectively, this can improve inclusiveness and competence development, and can personalise learning.

Online learning may take place in any physical environment where a learner can use a device to connect to the Internet. It can support learning in different contexts, including school site and distance learning, separately or in combination, and is therefore important in supporting blended learning.

Digital learning tools do not always need to be connected to the Internet and can include: smart boards and projectors for collaboration in classrooms; mobile devices and laptops with applications for designing, exploring and sharing work; television and radio for following recorded programmes; and Augmented Reality and Virtual Reality tools and application for enhanced interactivity.

These can be complemented by a full variety of other learning tools (books, craft tools, analogue scientific equipment, and sports equipment) to create a varied learning experience and access to a range of content that can help to develop a broad range of competences.

Blending learning environments and tools within tasks

Of paramount importance to the learning design is blending environments and tools needs as appropriate to learner age, capacity, and circumstances, and the intended learning outcomes. For example, the decision to complement teacher-led with pupil-led tasks, and collaborative (group or whole class) tasks with individual tasks, are important factors in the way blended learning environments and tools can be effective for both younger and older pupils.

Blended learning has the potential to empower pupils to:

- become strong, independent and also collaborative learners and also have more ownership of their lifelong learning, which will help support a culture of lifelong learning in the future;
- have a more personalised approach to their formal education, with extra attention and support given to any areas that may be hindering progression;

- develop creative characteristics (curiosity, imagination, perseverance, problem-solving, critical reflection) and all Key Competences for Lifelong Learning[8];
- recognise their own particular talents and make links with their learning in non-formal settings;
- enjoy a healthy and active lifestyle, encouraging positive lifelong habits[9];
- recognise the relevance of this learning to their lives and develop a sense of agency as active European citizens.

2.1.2 Why rethink the blend of environments and tools with established practices of school site learning?

The vision of the European Education Area and of the Digital Education Action Plan 2021-27 is for school education that is fully inclusive – with flexibility, access, and engagement - and of high quality with meaningful learning experiences - that are personalised and relevant to the lives of learners. In order to achieve this, what are the advantages of blending learning?

Blended learning is a flexible approach that can support a project or course of study to progress whilst not requiring teachers and learners to be in the same physical space at all times. On a practical level, this is useful for times when attending a school site is not possible, or when other sites are more appropriate for the learning approach. It demands a careful consideration of the learning design. It requires decisions to be made about how and when to best use the different environments for independent study, collaborative enquiry, social interaction, and practical application of knowledge and skills. It encourages a review of what the school site is and can be for the learner and its community, and how school time is best utilised.

It can help to improve the inclusiveness of education, particularly due to its flexibility, if resources and school organisation allow. For example, there can be better provision for education in rural and remote areas, including the outermost regions and island communities, and for other learners who may not attend the school site full time: those part of traveller communities; young carers; those with health issues or residing in hospitals and care centres; those engaged in high-performance training (for example young athletes or performance artists); and those in vocational training or paid work.

> ***"Blended Learning can raise student motivation, enthusiasm, and overall engagement while at the same time it can improve skills that are critical for the students' future."*** *(Ministry representative)*

[8] Council Recommendation on Key Competences for Lifelong Learning - 2018/C 189/01 - https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AC%3A2018%3A189%3ATOC

[9] As described by Commissioner Gabriel, in announcing the HealthyLifeStyle4All initiative, 23 March 2021. https://ec.europa.eu/commission/commissioners/2019-2024/gabriel/announcements/opening-speech-commissioner-mariya-gabriel-erasmus-sport-info-day-2021_en

The periods learning on the school site can both prepare and reinforce learning in other environments. However, these other environments do not mean that pupils are alone. Any time that pupils spend learning together, with or without a teacher or other learning facilitator, and on the school site or in other indoor and outdoor environments, are important for enhancing learners' social skills, well-being and sense of community.

Blended learning has the potential for teachers to redefine their practice using a range of tools, including digital technology, where learners can engage in self-directed learning around issues that are meaningful to them. This embraces the contemporary educational perspective that students are not merely passive receivers of information and the teacher is not the only facilitator. Tools that facilitate greater student autonomy in the learning process can stimulate and support student agency (sense of own competence), personalised learning, and intrinsic motivation. Where relevant tools are used, it can also support the development of digital competence[10].

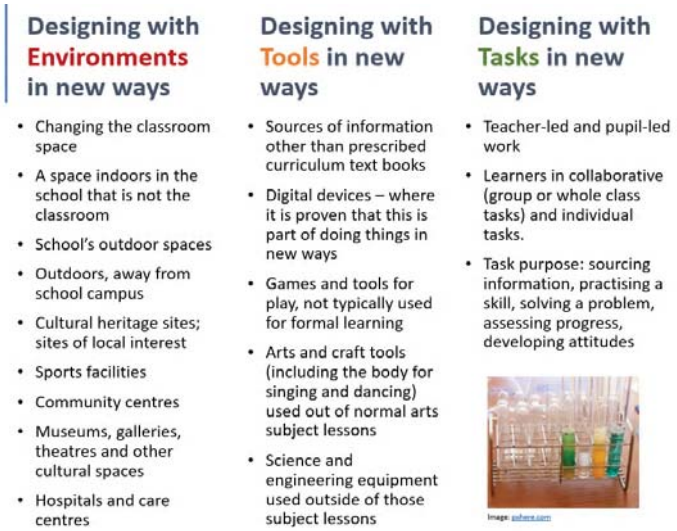

Figure 1: Examples of designing for learning in new ways with environments, tools and tasks

Ultimately blended learning has the potential to transform educational experiences for young people[11] by allowing learners to take more responsibility for their own learning before and after a live classroom session. Blended learning is a way to move towards a competency-based approach where the learner is in the centre[12]. For teachers, blended learning allows for valuing all learners, differentiating and personalising teaching.

[10] As set out in the 2018 Recommendation on Key Competences for Lifelong Learning https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2018.189.01.0001.01.ENG&toc=OJ:C:2018:189:TOC

[11] Terada, Y. (2020) A Powerful Model for Understanding Good Tech Integration. Available at https://www.edutopia.org/article/powerful-model-understanding-good-tech-integration

[12] iNACOL Blended Learning Teacher Competency Framework https://files.eric.ed.gov/fulltext/ED561318.pdf

The ability to support learners with specific needs through blended learning was already evident before the COVID-19 pandemic[13]. However, lasting and widespread change or transformation will require a collaborative approach, where policy makers, curriculum designers, education researchers, teacher educators, teachers, and pupils themselves engage constructively in developing new understandings and designs for how teaching and learning can better serve the needs of all learners.

Blended learning has been mostly used in tertiary education and business training, as well as some schools in remote areas[14]. However, it can also be effectively implemented in mainstream school education if a number of factors are taken into consideration.[15] It is important that the strategy of the school and the design by the teachers as professionals is based on what is best for the learner; that there is clear understanding of and rationale for the embedding of different learning environments and tools; and that the learning process is carefully planned, created and monitored with feedback to inform future learning design and school development.[16]

2.1.3 What is the history of blended learning?

There is a long history of the blending of different environments and tools in education. This is linked partly to the development of tools for communication, but also cultural shifts in who is given responsibility for education and ideas about how learning should ideally happen.

Over the centuries, those designated the role of "teacher" have included: philosophers; military leaders; sports and intellectual pursuits trainers (in "gymnasiums"); those in religious orders, using part of the religious buildings as a "school"; educated individuals teaching the children of wealthy families in their large homes; skilled workers taking on young apprentices; and, latterly, graduates with a teaching qualification working in a building specifically constructed for the purpose of educating all young children in the local area.

Distance learning - learning away from the school building(s) - has a long history and cannot be classified as "new", even though it still may not yet be considered mainstream or integrated in a coherent or strategic way into school education. Classic examples where the *pupil is physically remote from the teacher* or institution range from correspondence courses in the 19th century, to Australian School of the Air, and to an array of radio and television programmes for young

[13] See Hughes, G. (2007) Using blended learning to increase learner support and improve retention. Accessed at https://discovery.ucl.ac.uk/id/eprint/10002022/1/Hughes2007Using351.pdf
Also : Rivera, J.H., (2016) The Blended Learning Environment: A Viable Alternative for Special Needs Students, *Journal of Education and Training Studies* Vol. 5, No. 2; February 2017 Published by Redfame Publishing URL: http://jets.redfame.com. Accessed at : https://files.eric.ed.gov/fulltext/EJ1125804.pdf
Also: UNESCO (2016) Learning for All: guidelines on the inclusion of learners with disabilities in open and distance learning. Paris: UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000244355

[14] Bacsich, P. (2012) Virtual schools and colleges providing alternatives for successful learning volume 1. Available at https://www.researchgate.net/publication/339537812_VIRTUAL_SCHOOLS_AND_COLLEGES_PROVIDING_ALTERNATIVES_FOR_SUCCESSFUL_LEARNING_VOLUME_1

[15] Review on Blended Learning: Identifying the Key Themes and Categories: http://www.ijiet.org/vol7/952-ER0019.pdf

[16] Expressed by the Distance Learning Network: School education in its discussion on Blended Learning, 10 June 2020

learners, which were – and are - designed to be watched together at school as well as remotely. Here school education has clearly taken advantage of advancements in telecommunication and today, with the Internet, there is the possibility to go further with such learning approaches.

Distance learning where the *pupil is physically remote from the school site* but may still interact with a teacher or mentor. This can include swimming lessons or other sports instruction and field trips (one day, one week), and work-based learning, which are all well-established in school education. Online learning has a more recent history and, like full distance learning courses, has been more firmly established in higher education and adult learning before being introduced into school education.[17]

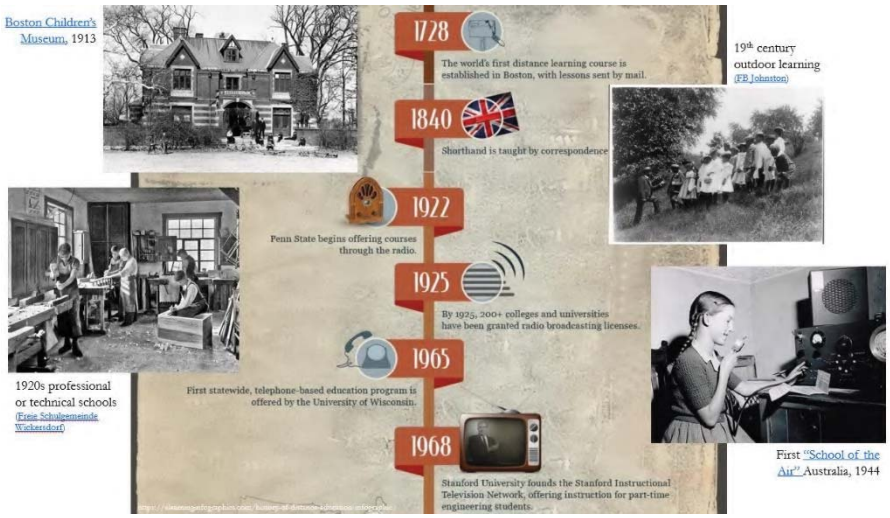

Figure 2: Timeline of distance learning in school education [18]

The integration of different learning tools is also not new. The integration of books can be traced back to the invention of the printing press in 1436 and the more recent shift from blackboard, to whiteboard, to interactive smartboard is also well documented.[19]

There is a lack of research evidence of schools or systems which have an established and full-embedded approach to blended learning as it is described here, although what exists has explored instructional design, teacher and pupil interaction, learning outcomes, attitudes, and the use of

[17] Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educause Review*, 27. https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

[18] Infographic source: E-learning Infographics.com. Available at https://elearninginfographics.com/history-of-distance-education-infographic/

[19] Marshall, S. (2020) Blended learning: a long-term shift in pedagogy. Blog for Higher Education Policy Institute. Available at https://www.hepi.ac.uk/2020/11/04/blended-learning-a-long-term-shift-in-pedagogy/

technology.[20] Nevertheless, plentiful evidence can be usefully found regarding the separate elements, such as on effective practice in:

- Modifying learning environments inside and outside school classrooms;
- Vocational education and training and work-based learning (including extra-curricular placements and volunteering);
- Using digital tools to personalise learning and access information in different ways (including virtual reality and game-based learning);
- Project-based learning (which is typically more pupil-led, in small groups or asynchronous);
- Alternative education provision (home schooling, hospital schools, rural and remote including the outermost regions and island communities, settings);
- Higher Education.

The existing research evidence on blended learning and its separate elements is explored further in Chapter 3.

Evidence specifically from school education is emerging and is likely to expand rapidly following the experiences during school restrictions, which will be invaluable to the field.

There is no clear evidence on "how much" of any particular learning environment is beneficial, and the complexity of the learning process and contexts means that there can be no "one size fits all" ideal. However, more deficits may exist in either solely distance or school site education compared with blended learning, which combines both approaches.[21]

2.1.4 How many varieties of approaches can a blended learning approach integrate?

Variations in learning design are potentially infinite. This should be seen as a positive for the ability to design for all learners, rather than a cause for concern. [22] The concept of blended learning supports the adaptation of the learning design for different groups of learners with different needs.

Whilst a "curriculum" – whether based on traditional subject domains or on competences developed across subjects – can be a singular reference point for all schools and teachers within a system, the learning tools and environments can be embedded and combined in different ways as best fits the needs of the learners.

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[20] See https://flexible.learning.ubc.ca/research-evidence/research-articles-2/blended-learning/

[21] Yu, Zhonggen. (2015). Blended Learning Over Two Decades. *International Journal of Information and Communication Technology Education*. 11. 1-19. 10.4018/IJICTE.2015070101.

[22] Garrison and Kanuka 2004 makes this point, https://www.researchgate.net/publication/222863721_Blended_Learning_Uncovering_Its_Transformative_Potential_in_Higher_Education

When designing a blended learning approach for courses of study, the approach selected by a whole school, subject department, or individual class teacher may have a number of different characteristics.[23] It will depend on factors such as: the age of students and their capacity to work in and with the selected environments and tools; the curriculum content and goals; the availability of appropriate infrastructure (for example, computers, connections, places to study) as well as competences of teachers; and the schools' own culture in terms of their attitudes towards different learning tasks (how learning takes place, including assessment).

The extent of time spent in distance learning and in on-site schooling, will vary depending on the extent of student autonomy and teacher- or other mentor-led activities. Whilst this can be strictly defined – as it has been during pandemic restrictions – schools may also be given free choice in terms of this variable.

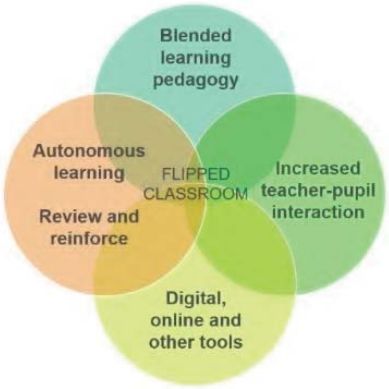

Figure 3: Elements of a flipped classroom approach [24]

In what is more commonly known as a "flipped classroom", pupils may acquire preliminary knowledge at home or remotely – for example, via books or online research - and teachers use school lesson time to facilitate the application of that in practice.[25] This approach may be taken whenever appropriate in a course of study and relies on all pupils having adequate opportunity to develop knowledge and skills in both environments.[26] The particular feature of "flipped" is that learning happens before, and potentially after, the lesson (classroom) application.

Blended learning invites a consideration of a learning process that extends both before and after a structured learning event, or "lesson". It can allow time in the live event for discussion and working with learners who need extra help; time being a precious commodity in education. As described above, it can also encourage the learner to take ownership of the whole process, albeit collaborating with others (teacher, peer, parent, and support staff) at

[23] Staker, H., & Horn, M. B. (2012). *Classifying K-12 blended learning.* Innosight Institute.
[24] Based on original graphic designed by K. Walsh, College of Westchester, NY and Flipped Learning Network. See http://www.flippedclassroomworkshop.com/ and https://flippedlearning.org/
[25] See https://www.blendedlearning.org/models/#flip
[26] During school closure and partial re-opening, this approach was encouraged by the Belgium ministries of education: using distance learning as "pre-learning" in order to make best use of limited classroom time.

different stages. It potentially reduces the likelihood that teacher-pupil knowledge transfer will dominate the learning process and establishes the "before" and "after" stages as being equally balanced according to learner input. It may be assumed that the more the learner is required to take ownership of the process, the more "relevant" the learning can seem to the learner, and thus the more they are likely to be motivated in their learning.

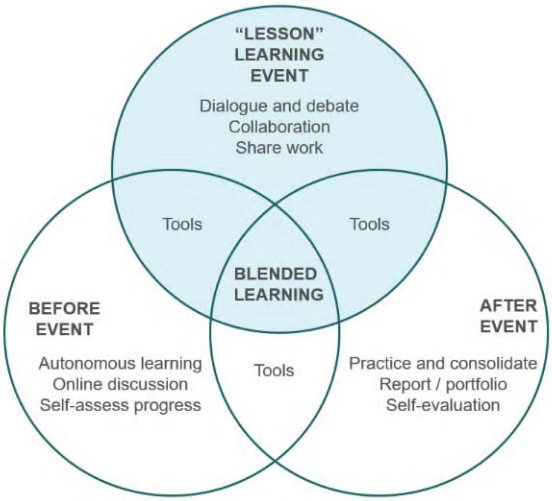

Figure 4: Blended learning as a process including before and after learning events[27]

A blended approach may also be described along a spectrum of less-to-more time spent learning at distance compared to on the school site.

For learners that are able to learn more independently (depending on their age, confidence and competence), some time - hours, days, weeks - can be spent learning at distance. The role of teacher is then to provide support, feedback and instruction on a needs basis while students work through course curriculum and content. This gives students a high degree of control over their learning and supports their self-directed and goal-oriented learning. This may include taking elective courses provided by other schools, or internships in the workplace, that are of particular interest to the student and can be included in a flexible schedule "a la carte". For the teacher and the school staff as a whole, it is important to consider how the monitoring and structuring of the learning process can be effectively provided whilst avoiding increased teacher workload or that certain learners miss out on vital additional support.

There may be more rare situations where the majority of learning takes place at distance, and pupils only attend school for occasional group or individual sessions with a subject teacher or learning mentor (across different curriculum areas). This does not require daily school

[27] Based on Liu et al (2017) Cloud-class Blended Learning Pattern Innovation and Its Applications, *Proceedings of the 2017 International Symposium on Educational Technology, Hong Kong*. Available at https://www.researchgate.net/publication/318099730_2017_International_Symposium_on_Educational_Technology_ISET_2017

attendance and may be useful for: students who, for instance, due to illness or professional contracts cannot attend school every day, or when their home is very remote from the school site; and when schools cannot have all students in their premises at the same time..

The opportunity to have this flexibility will depend on the capacity of the learner to work independently and with the appropriate support from another. It may be assumed that younger learners need more support but this is not always the case as many factors contribute to the capacity of learners to thrive in different environments and with different tools.

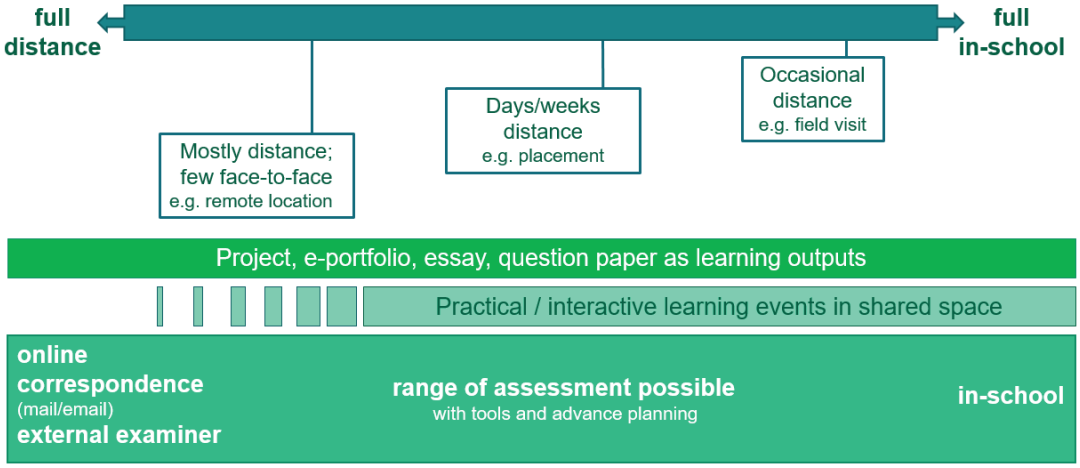

Figure 5: Blended learning approach as a spectrum of situations and opportunities

2.2 Key Competence development and blended learning

The Council Recommendation on the Key Competences for Lifelong Learning[28] describes the eight competences (each comprising knowledge, skills and attitudes) needed by everyone for personal fulfilment and development, employability, social inclusion and active citizenship.

The Key Competences are: literacy; multilingual; mathematical and science; digital; personal, social and learning to learn; citizenship; entrepreneurship; and cultural awareness and expression.

The framework integrates a view of education as a continual, lifelong-process with high-quality education and training on an on-going basis. Likewise it encourages a variety of learning approaches and contexts for continual learning through diverse experiences. This includes finding the most appropriate way to assess and validate competences.

[28] Full text of the Recommendation: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2018.189.01.0001.01.ENG&toc=OJ:C:2018:189:TOC

Figure 6: The eight Key Competences for Lifelong Learning

Competence-oriented education focuses on the outcomes of learning processes, as well as on the fact that learning happens in a diverse range of contexts. Competence-oriented education is regarded as advantageous in a time when the knowledge base of our societies is developing at an immense speed, and the skills required need to be transferred to, and developed in many different societal contexts. A blended learning approach encourages a step further towards learning experiences in environments and with different tools that are believed to support broad competence development.

There is a strong connection between the pedagogical and organisational principles associated with competence-based education[29] and a blended learning approach:

- It requires a **flexible approach to teaching and learning** that moves away from the concept of the educator as the single 'knowledge authority' and allows the use of a variety of learning approaches to scaffold the progression and growing independence of each learner – of any age - according to their strengths, needs and interests;
- In order to support the capacity of "learning to learn" which underpins the lifelong development of all competences, **learners need to have an active and equal role** in the creation of the learning process. This calls for more participatory methods in learning, where the learner is active in a task rather than passively receiving information, and may even be involved themselves in decision-making on the learning content, approaches and organisation;

[29] See section 5.5. (Learning environments and approaches) of the Key Competences for Lifelong Learning: Staff Working Document (2018) Available at https://ec.europa.eu/education/education-in-the-eu/council-recommendation-on-key-competences-for-lifelong-learning_en

- **Diversity of learner needs** should be matched by differentiated learning support systems, to provide targeted and individualised learning when necessary;
- **Learning is a social event** and often organised in groups where learners are dependent on each other and learn with or from each other. The nature of competences also means that attitudes – often socially-constructed – are being developed alongside knowledge and skills. In order to support competence development, learning environments need to be safe and respectful, with a concern for the well-being of all educators and learners. Online learning and the use of connected digital devices, in particular, may need close monitoring to ensure the safe engagement by young people. This social and often collaborative nature of learning also presents an added challenge or complexity to the assessment of individual learner progression, meaning that the ability of a learner to self-reflect as part of team work is even more crucial;
- **Inquiry-based and project-based learning** can support competence development by setting up an open inquiry based on a problem. The learner is then required to draw on a broad range of knowledge, skills and attitudes, and follow a cyclical process of design, creation, reflection, and adaptation, complementing this with the input of other individuals. This approach is also well-suited to blended learning where learners embark on a longer process of discovery, drawing on a rich mix of experiences and environments.
- **Collaboration inside the school settings, as well as outside with a variety of partners is essential** for quality competence development. Collaborative and cross-discipline teaching and learning within learning settings, for example through projects, team teaching and learner-led activities, improves engagement and learning outcomes in a range of competences. This calls for a more distributed leadership[30] and management where education and non-education staff, learners and others are more involved in the learning process and may propose, coordinate or lead activities and projects. This approach not only requires different education, training and learning settings to network and create partnerships with each other but also establish cross-sectoral cooperation with external actors such as business, arts, sport and youth community, higher education or research institutes[31]. Such broad partnerships and networks can provide rich learning environments, but need to be built through a long-term strategy based on trust and common objectives.

Taking these points into consideration, the key competence of "Personal, Social and Learning to learn" itself is important to support the development of all other competences and even more so

[30] Distributed leadership in schools aims to better share tasks and responsibilities across the entire school community, encouraging teachers, non-teaching staff, learners or other stakeholders to take on leading roles in a particular area of expertise, assume responsibility and take initiatives as individuals or groups. It promotes teamwork, multi-disciplinarity and professional collaboration and enhances a variety of competences in all participants.

[31] European Commission, 2015, Science Education for Responsible Citizenship, Report of the expert group on science education

within a blended learning approach. The development of this key competence is required from an early age.

The Key Competence "Personal, Social and Learning to Learn" is described further in Chapter 3 and the detailed competence framework is presented in Chapter 4.

Blended learning prompts a review of national and school curricula because the expectations set down for learner competences can have a direct impact on the design of the learning process, including assessment[32] and vice versa.

> ***"Consideration should be given to the role that blended learning – both at school and in distance settings – and the use of both digital and non-digital [tools] can play in delivering better education al outcomes … Curricula should meet the individual needs of learners … equipping them with the breadth of skills … such as creativity, collaboration and problem-solving, which are critical for children to succeed in the 21st century."*** (A European education foundation)

2.3 A blended learning approach by schools as part of the wider learning community and education system

2.3.1 Whole School Approach

A blended learning approach, combining school site and distance learning environments and a variety of tools, should involve a close collaboration between a wide range of cross-sectoral stakeholders and the community at large.[33] This is aligned with the established concept of a 'Whole School Approach'[34] that enables schools to respond adequately to new and complex challenges and will help move from isolated examples of effective practice by individual teachers or teams of teachers to continuous, and sustained, change across the school as a whole.

Effective blended education requires a shared and well-communicated long-term vision of the objectives of the blended approach. Coherence with broader school strategies is also needed,for

[32] This paradigm shift is explored in detail by Fullan, M., Quinn, J., Drummy, M., Gardner, M. (2020), "Education Reimagined; The Future of Learning". A collaborative position paper between New Pedagogies for Deep Learning and Microsoft Education. http://aka.ms/HybridLearningPaper

[33] See the European Toolkit for Schools https://www.schooleducationgateway.eu/en/pub/resources/toolkitsforschools/area.cfm?a=5

[34] See European Commission (2015) A whole school approach to tackling early school leaving, https://ec.europa.eu/assets/eac/education/experts-groups/2014-2015/school/early-leaving-policy_en.pdf

example, alignment with the overall mission statement of the school, its digital learning strategy, and its well-being actions).

As an example, the European Framework for Digitally Competent Educational Organisations takes a whole-institution approach to learning support by technology and could also be equally applicable to the design of a broader blended learning approach. The Framework considers that effective digital learning strategies requires action in the following areas:

- Leadership & school governance practices;
- Teaching and learning, reflecting on the roles of staff and pedagogical approaches, including revisiting where and when learning takes place;
- Professional development;
- Assessment approaches;
- Curricula content;
- Collaboration and Networking;
- Infrastructure.

See Chapter 4 for more on the European Competence Frameworks

A more recent model from the Embed Erasmus+ project[35], developed for higher education but also applicable for the school sector, sets out eight areas which could be considered for an institution to develop a blended education strategy: institutional support; strategies; sharing and communities; professional development, quality assurance; governance; finances and facilities (see Figure below).

For each of these areas three levels of 'maturity' are detailed. For example, regarding professional development an 'ad hoc' level is where only a small number of workshops are offered to teaching staff, whereas at a 'strategic level' all staff are systematically provided training in blended learning design and facilitation. A wide portfolio of courses are made available and teachers are recognised for their professional development activities.

[35] Emded Erasmus+ project. For more see the website https://embed.eadtu.eu/#:~:text=EMBED%20will%20create%20a%20reference,strategies%20making%20the%20institution%20continuously

Figure 7: Eight areas for institutions to consider when developing a blended learning strategy

2.3.2 Schools as Learning Organisations

For the school, adopting a blended learning approach requires a strategic approach to teaching and learning integrating various factors: learning environments (home, online, school, workplace, other), competence development process (lifelong learning and professional); affective domain (motivation, satisfaction, discouragement, frustration), and people (learners, teachers, parents, and other staff).[36] For this reason, it is important to consider blended learning within the ongoing development of the whole school and all of its associated stakeholders.

The concept of **"schools as learning organisations"** – developed by the ET2020 Working Group Schools on the basis of OECD research - is a useful frame of reference that can help schools and systems plan for and manage innovation and change. This is the concept of a school community that encourages and enables teachers and school leaders to improve both their pedagogical and their organisational practices concurrently through local collaborative research, networking and continued professional development. Developing the capacity and role of teachers and school leaders is essential for schools to provide a clear strategic vision and leadership that guides and fully supports teaching and learning, and which enables effective communication with other practitioners and stakeholders. Such schools do not exist in isolation; they are linked and embedded within a learning system where decision-makers can learn from the developments that are taking place in and around schools.[37]

[36] Yu, Zhonggen. (2015). Blended Learning Over Two Decades. International Journal of Information and Communication Technology Education. 11. 1-19. 10.4018/IJICTE.2015070101.

[37] https://www.schooleducationgateway.eu/downloads/Governance/2018-wgs1-governance-school_en.pdf

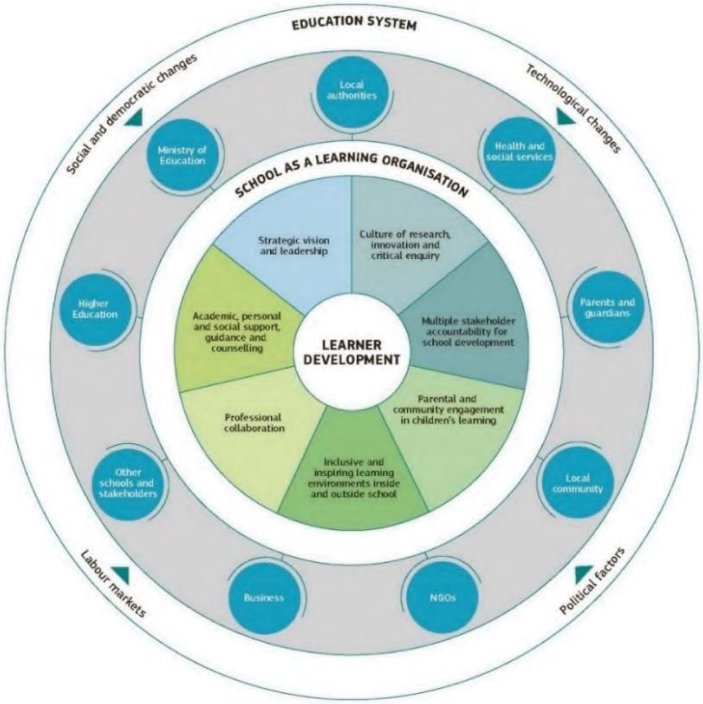

Figure 8: The school as a learning organisation, as developed by the ET2020 Working Group Schools[38]

2.3.3 System organisation and feedback loops

Improving the access to and experiences of learning, including well-being, and the broad competence development of all learners, should be the central pursuit of school education policies. Therefore, it is prudent to examine what is needed at school level and, at the same time, the conditions that can be created by national policies.

Systems will need to reflect on their current standards, procedures and regulations and amend these, where required, to better meet the needs of all stakeholders within the system. The Recommendation acknowledges that effective blended learning, even in individual institutions, requires a flexibility or significant fundamental change **across the education system** and its support mechanisms (legislation and frameworks, resources, professional development, quality assurance).

The governance of school education

Understanding school education as a learning system directly responds to the challenges of complexity and improvement as it is based on collaboration and communication between horizontal and vertical connections. Horizontal connections may be between regions, between schools, or between a school and the wider community. They may be based on formal or more

[38] https://www.schooleducationgateway.eu/en/pub/resources/governance-of-school-edu.htm

informal arrangements. Vertical connections are often hierarchical, such as between a school and the inspectorate. There are degrees of authority in these relationships, the level of which can influence how the work is initiated and carried out.

Strengthening and exploiting these connections helps to organise collective intelligence in order to understand and act upon what is - and what needs to be - happening in different parts of the system. Networks and feedback loops are particularly important mechanisms for this. A learning system promotes a long-term step-by-step approach to school education development, with piloting, reflection and feedback, in order to ensure the sustainability and legacy of education policies.[39] In a similar way, a system approach to blended learning can be understood at three levels: the macro (national or regional), meso (school strategy or programmes of study) and micro (teacher learning design):

Figure 9: Three levels of design and implementation of a blended learning approach

Evidence and feedback to support change

A whole-school approach to blended learning also needs to be grounded in evidence. It is essential to gather, analyse, interpret and use a range of qualitative and quantitative data to create a holistic picture of school and student readiness for blended learning and proceed to develop clear strategies on this basis.

School leaders have a key role to play in raising awareness, motivating and involving all staff as well as the school's parents and students in developing a shared vision for blended learning. The role of parents, especially for supporting primary school pupils, cannot be underestimated. Broad stakeholder engagement can promote transparency, trust, shared responsibility and ongoing reflection on how to improve on a continuous basis. Policy makers can also play a key role in promoting collaboration within and between schools on blended learning. Schools may also build bridges with wider communities including researchers to support school-level blended learning and to develop their capacity to work systematically with quantitative and qualitative data.

[39] For more on the concept of school education as a learning system, see the ET2020 Working Group report on "European ideas for better learning: the governance of school education systems". Available at https://www.schooleducationgateway.eu/en/pub/resources/governance-of-school-edu.htm

Figure 10: Eight steps to successful change [40]

School self-evaluation has emerged as a key mechanism to support whole approaches to change and innovation. With a strongly-held belief in Europe that school autonomy leads to increased quality[41], schools may have greater responsibility for student outcomes, and more latitude to tailor responses appropriate for the school's own context. School self-evaluation and the diagnosis of school needs, insight and understanding followed by action for improvement and review can be effective in implementing a blended learning approach.

School self-evaluation has been shown to lead to greater sensitivity about areas in need of improvement.[42] It is found to lead to more frequent and open consultation about the quality of education and more classroom visits by the school leader. The process of school self-evaluation allows teachers to develop a perspective beyond their own classroom, particularly when they are involved in decision-making. In addition, policy makers can also provide various tools, guidelines and approaches, adapted to local contexts and needs, which can support schools in their self-evaluation and organisational development. Human and financial resources and time also needed to be made to conduct effective school strategies for blended learning.

To support schools in gathering evidence and designing a blended education strategy, the free online SELFIE self-reflection tool could be of direct use. SELFIE (Self-reflection on Effective Learning by Fostering the use of Innovative Educational Technologies) was developed by the European Commission in cooperation with education authorities and other experts and was tested extensively with schools prior to launch in 2018. The tool – which has now been used by over one million students and staff in 74 countries - is designed to help schools embed digital

[40] Source: www.kotterinc.com/8-steps-process-for-leading-change/
[41] da Cruz Martins, S., Albuquerque, A., and Capucha, L. (2019) "School autonomy and administration. Configurations and processes in Europe" in *School Autonomy, Organization and Performance in Europe*, ed. da Cruz Martins et al, Lisbon: CIES – Iscte (Centre for Research and Studies in Sociology)
[42] European Commission (2020) Supporting school self-evaluation and development through quality assurance policies: key considerations for policy makers. Report of the ET2020 Working Group Schools. Available at https://op.europa.eu/en/publication-detail/-/publication/a08583f0-c18f-11ea-b3a4-01aa75ed71a1/language-en

technology into teaching, learning and student assessment, with a focus on learning and pedagogy rather than technology per se.

More information on the SELFIE tool for schools and teachers is given in Chapter 4

2.4 Teachers and school leaders: moving to a blended learning approach

The Recommendation – and the research evidence it is based on – recognises that combining effective school site teaching and facilitating flexible distance learning[43] for all pupils in a way that functions as a coherent pedagogical approach[44] requires a high level of competence of teachers and school leaders**.** This needs to be coupled with clear guidance, some degree of autonomy, and sufficient time and other resources to create an appropriate learning design in advance.

The Recommendation does not intend to instruct how schools must organise teaching and learning, nor how all teachers must facilitate the learning process. Given the diversity of circumstances surrounding school education, it is not possible to construct a "one size fits all" approach. However, there are principles that can be understood and generally applied within a blended learning approach.

Key role as designers and change agents

Teachers and school leaders have a key role as change agents at school, local and regional, or national level.

The prior experience and current competence (knowledge, skills and attitudes) of the teacher will have a significant impact on the effectiveness of their own individual, their school's, or their system's approach to blended learning not least because of their empathy for the learners, colleagues and other members of the local community. This aligns with the understanding that teachers are not merely passive facilitators of learning, rigidly following a prescribed curriculum, but are **designers,** constantly adapting their own approach based on the needs of others – some with a strong capacity for more provocative change and innovation.

Enabling school change requires strong leadership by school leaders and school heads who are informed about, willing, and able to co-construct an appropriate strategy, which may include the integration of technology.

Conditions for change

[43] Stein, J., & Graham, C. R. (2014). *Essentials for blended learning: a standards-based guide*. New York: Routledge.
[44] Krasnova T. A Paradigm Shift: Blended Learning Integration in Russian Higher Education. *Procedia – Social and Behavioral Sciences*, 2015, no. 166, pp. 399–403. Available at: https://www.sciencedirect.com/science/article/pii/S1877042814066816

Encouraging teachers and schools leaders to be change agents requires a level of autonomy for schools to make some of their own decisions about their strategy for a blended learning approach. Not every situation or opportunity can be predicted or planned years in advance; hence schools and their staff need some liberty with guidance to act as they see appropriate for their learners in any given context.

It also supposes some autonomy in learning design and curriculum content, if the kind of principles outlined above (see 2.2 About Key Competence Development) are to be realised in practice.

Teachers and school leaders as change agents must also possess a "sense of agency". In other words, they must have the motivation and confidence ("efficacy") in themselves, the competence, and know that they have the capacity (freedom bestowed by others) to act.

Implications for Initial Teacher Education (ITE) and Continued Professional Development (CPD)

Within a move for change must be a recognition of teachers as individuals and supporting them to adapt to various situations and to deal with the challenges that they encounter.

Naturally, teacher professional development opportunities (courses, network discussions, projects, mentored reflections, self-assessment tools) need to be adapted with both the design principles of a blended learning approach and individual teacher needs in mind.

Initial Teacher Education is a crucial phase to consider as each yearly intake of teachers need to be prepared for adapting their practice in any number of ways. Like digital education, designing for a blended learning approach (blending different environments and tools with tasks) should not be a separate idea or module in teacher professional development. It should be embedded in any reflection on learning design – and therefore should be a part of both Initial and Continued Professional Development.

If a blended learning approach is seen as a useful approach in a state of emergency, teacher professional development – as well as school development plans – may also usefully include some element of preparing alternative approaches in times of need.

The role and work of teachers and school leaders is discussed in more detail in Chapter 3.

2.5 Learners and blended learning

The main focus of any learning process is the learner and therefore, when designing within a blended learning approach, their needs, their expectations, their backgrounds and special characteristics should be identified and considered carefully.[45]

"Scaffolding" learning

Blended learning, by diversifying the environments and tools, can alter the relationship between teachers and pupils – and between pupils and the learning content – if the appropriate learning tasks require that the teacher is not always giving direct supervision. Such a deliberate shift can give learners more control over the time, place, path, and pace of the process. It can create new learning experiences that are flexible and personalized, customized to the needs and the circumstances of the individual learner or groups of learners.

However, this is not to say that the teacher is completely absent from the learning process. This is a misinterpretation of the concept. Regardless of the age of the learner, and regardless of whether the teacher and pupils are in a shared physical space or not, the teacher is a constant and critical presence in the learning process. They design the approach and select the blend of environments and tools; they explain the tasks; they are active in the tasks when appropriate; and they review the learning progression after the tasks. Understanding what the learner can do with and without assistance from others is the essence of Vygotsky's "Zone of Proximal Development"[46] and the "scaffolding" described by Bruner[47] whereby there is a "role played by the teacher, parent or more experienced peer in providing … support."[48]

One claim is that learning without constant close supervision (for instance with some online or distance learning) may be more suitable for older students and adults, where learners have more control over time, place, path, and/or pace[49], however, younger pupils and those needing additional learning support may struggle to learn independently. This may seem obvious: with experience and higher levels of competence, one assumes the learner can manage their own progress. However, there are many more factors that influence learning, some of which are described by pupils themselves in the student consultation conducted in 2021 (see Chapter 3). Indeed, the challenge of and antagonism between intrinsic and extrinsic motivation in teenagers

[45] https://www.tandfonline.com/doi/full/10.1080/09687760500479787
Also: https://amberhartwell.wordpress.com/2015/12/02/important-k-12-distance-learner-characteristics/
Also: https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-017-0043-4
[46] Vygotsky, L.S. (1978) *Mind in Society*, Cambridge, MA: Harvard University Press
[47] Bruner, J. (1990) *Acts of Meaning,* Cambridge, MA: Harvard University Press
[48] Ewing, R. (2016) Dramatic Play and Process Drama: Towards a Collective Zone of Proximal Development to Enhance Language and Literacy Learning. In *Dramatic Interactions in Education: Vygotskian and Sociocultural Approaches to Drama, Education and Research*, ed. Davis et al, London: Bloomsbury
[49] Staker H., Horn M.B. Classifying K-12 Blended Learning. Available at: https://www.christenseninstitute.org/wp-content/uploads/2013/04/Classifying-K-12-blended-learning.pdf

is well-known and researched.[50] Therefore, assumptions about age and capacity to achieve defined learning outcomes should be treated with caution given that a 10-year-old boy may be more motivated to complete a learning task than a 15-year-old girl depending on their personal circumstances.

Designing learning requires serious consideration of the necessary support for learners who require additional assistance: those with special education needs and those whose personal circumstances may have a negative impact on learning outcomes if the learning is to take place in a different environment or with different tools.

There are specific needs relating to the learning task and overall learning process, including:

- Working both with peers and independently when necessary with a sense of agency (confident that one has the competence and freedom to act);
- Managing the learning process for oneself or on behalf of others;
- Communicating ideas and asking for assistance when needed, either in person or via communication tools;
- Trusting and collaborating with others in the wider school community, for example cultural sector professionals or work-place mentors;
- Carrying a sense of learning and development across a number of different occasions, recognising how one has developed and where to progress next.

A core idea of the Whole School Approach (see 2.3.1 above) is that learners - like any stakeholder group in education - do not exist in isolation; they are shaped by social interactions with the people around them. Therefore, just as important to designing learning for the individual learner is reflecting upon the needs and influences of their peers, teachers and school leaders, parents, other learning facilitators inside and outside of the school, and any other supportive person.

Specific needs relating to environments and tools

Aside from the learner needs described above, there are those specifically related to environments and tools within a blended learning approach, including:

- gradually building an appropriate level of familiarity and competence with chosen environments and tools as part of the learning strategy;
- appropriate levels supervision or support in the distance environment, depending on the pupil and the task;
- access to appropriate tools for the task, including digital devices;

[50] Çelçima, D. (2017) Adolescents and the challenges in their motivation, *European Journal of Social Sciences, Education and Research*, 4 (2), pp96-105

- a safe and secure online experience for pupils of all ages when connecting with digital devices.

Empowering learners to actively participate in their learning process has been defined as an understanding that digitally competent teachers develop – or need to develop[51]. Ensuring access to digital resources and learning activities for all students, using digital technologies to address diverse learning needs and capabilities, using digital technologies to foster learners' active and creative engagement in their learning and using digital resources and tools, online learning environments and platforms to ensure students' learning within and beyond the classroom, are essential elements that can facilitate the development of a blended learning approach.

The digital competence of teachers and learners is discussed further in Chapter 3.

Learner well-being

The pandemic increased a long-standing concern for the physical, mental and emotional well-being of young people, not merely their progression through the statutory school curriculum. All young people should be supported to enjoy a healthy and active lifestyle, encouraging positive lifelong habits, and have the opportunity to participate in a range of sports and other physical activities, which enhance motor skills and boost mental and emotional well-being. Young people also need support for their mental and emotional well-being during learning, including learning tasks under increased pressure, understanding safe and responsible online behaviour. Support is also needed for those learners who spend extended periods of time away from peer or school staff support.

Benefits of blending environments for the learner

Different learning environments can give access to facilitators with different expertise, to tools that are not available on the school site, and to cultural spaces not normally encountered by learners in their daily lives. These environments and tools take on new meaning or interest to the learner simply because of being outside of the school and inside another societal space.

Different learning environments might be needed in emergencies, such as public health crises or natural disasters, but a more structured and planned-for approach has the potential to be a viable alternative in other situations where learners cannot access education and training buildings (for example, to reach geographically isolated regions, to support students with long-term illness, to supplement teaching or fill curriculum gaps).

The potential for inclusiveness via blended learning and the reality during the COVID-19 pandemic left systems with a paradox. Entire groups of learners, including those from rural remote areas, including the outermost regions and island communities, migrant and refugee

[51] SELFIE for Teachers https://digcompedu.jrc.es

children and other learners from disadvantaged backgrounds, risked being excluded from "scaffolded" learning. An analysis of the open public consultation on the Digital Education Action Plan[52] confirmed that the COVID-19 pandemic deepened already existing inequalities in terms of disadvantaged groups and minorities having access to tools (both devices and Internet connectivity), as well as learners with special educational needs lacking the individual support they might usually receive from the school.

Nevertheless, there are certain groups of learners from mobile communities, such as Roma, Gypsy and other Traveller communities, whose attendance on the school site and access to structured learning can be interrupted. Carefully designed distance or blended learning programmes could improve these young people's educational experience and attainment and increase future educational opportunities for them and their other family members.[53] Blended learning has also been found to be an effective approach to address the learning challenges in students with special needs and a promising intervention to enhance learning of students with disabilities.[54]

Figure 11: Learning and cultural identity transcends different environments

[52] https://ec.europa.eu/education/sites/education/files/document-library-docs/deap-swd-sept2020_en.pdf
[53] https://www.step.education.ed.ac.uk/
[54] See Hughes, G. (2007) Using blended learning to increase learner support and improve retention. Available at https://discovery.ucl.ac.uk/id/eprint/10002022/1/Hughes2007Using351.pdf
See also Rivera, J.H., (2016) The Blended Learning Environment: A Viable Alternative for Special Needs Students, Journal of Education and Training Studies Vol. 5, No. 2; February 2017 Published by Redfame http://jets.redfame.com. Available at https://files.eric.ed.gov/fulltext/EJ1125804.pdf
See also UNESCO (2016). Learning for All: guidelines on the inclusion of learners with disabilities in open and distance learning. Paris: UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000244355

2.6 Glossary of terms

The terminology and descriptions hereunder are given for the purposes of the Council Recommendation and this document. Many of the terms have been discussed and agreed by national representatives and are used in European Commission publications. It is accepted that they may vary across other publications and in other contexts.

Beginning teacher	Early career teacher who carries out wholly or partially the tasks incumbent on experienced teachers, and are remunerated for their activity. Normally this period includes training and evaluation, and a mentor providing personal, social and professional support is appointed to help new teachers within a structured system. Depending on whether the teacher has already achieved their formal qualification, the phase can last at least several months up to two years.
Blended learning	This is the design and facilitating of learning both on the school site and in other physical environments away from the school site (distance learning) and the use of different learning tools (digital, which can be online, and non-digital). It can be an approach at the micro level - in a single learning process with a group of learners - , the meso level - a strategic approach by a school to facilitate blending learning -, and the macro level – embedded as a system-wide approach.
Collaborative learning	When learning is collaborative it involves interaction between learners – either facilitate or not by a teacher - where the members of the group are helping each other to progress in the task as well as themselves.
Competence (Key Competence)	Competences are defined as a combination of knowledge, skills and attitudes, where: – knowledge is composed of the facts and figures, concepts, ideas and theories which are already established and support the understanding of a certain area or subject; – skills are defined as the ability and capacity to carry out processes and use the existing knowledge to achieve results; – attitudes describe the disposition and mind-sets to act or react to ideas, persons or situations. There are eight Key Competences for Lifelong Learning.
Continued Professional Development (CPD)	(also Continuing or Continuous) This is the learning that education professionals (teachers, school leaders and other education staff) engage in at any stage of their career to

	enhance their pedagogical and organisational practice.
COVID-19 pandemic	The COVID-19 pandemic, also known as the coronavirus pandemic, is an ongoing pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), first identified in December 2019 in Wuhan, China. The World Health Organization declared the outbreak a Public Health Emergency of International Concern in January 2020 and a pandemic in March 2020.[55]
Digital technology	A digital device, method, or system, created by using scientific and engineering knowledge. The application of this knowledge for practical ends, as in digital communications and social media.
Digital tool	A digital device used for a particular purpose or learning outcome.
Disadvantaged learners	Those whose family, personal, social, or economic circumstances hinder their ability to learn in formal and non-formal settings.
Distance learning	Where the learner is not on the school site/campus.
e-Learning	Learning that is facilitated electronically. *This term is typically interchangeable with online learning (see below).*
Formal, non-formal and informal education	Formal education is intentional, organised and structured. It is usually provided in schools, colleges, universities and other formal education and training institutions, and leads to recognised diplomas and qualifications. Non-formal education takes place through planned activities (in terms of learning objectives and learning time) where some form of learning support is present, but which is not part of the formal education and training system. Informal education results from daily activities related to work, family or leisure which is not organised or structured in terms of objectives, time or learning support.
Independent or individual learning	When learning is independent or individual, it can happen at any time and the learner is acting independently of the teacher or other learners. They are not necessarily lacking interaction as there may be some form of communication, for example to clarify or respond to part of the task verbally or via text.

[55] https://en.wikipedia.org/wiki/COVID-19_pandemic

Initial Teacher Education (ITE)	A period of formal study in order to gain a recognised qualification and be employed as a teacher. This is typically offered by education departments in universities or independent teacher education institutions.
Learning design	The theory and practice of designing, developing, using, managing and evaluating processes and resources for learning. The instructional design process goes beyond simply creating teaching and learning materials and it is based on carefully analysing how students learn and what content, methods and tools will most effectively help them achieve a specific set of learning outcomes. It consists of determining the needs of the learners, defining the learning outcomes and objectives of instruction, organising and planning assessment tasks, and designing teaching and learning tasks to ensure the quality of instruction
Learning environment	The physical space where learning takes place.
Learning strategy or plan	The approach to the learning process, made up of one or more tasks. The strategy or plan may span a number of hours, weeks or whole semesters.
Learning task	An activity designed by a teacher for the learner to achieve specific learning outcomes.
Learning tool	The artefact that is used in order to undertake an activity for a particular learning outcome.
Online learning	Online learning is defined as education that takes place with the use of digital technology to connect different devices and to facilitate interaction of the learner with: other learners; learning programmes; and other sources of information. Online learning may take place in any physical environment where a learner can use a device to connect to the Internet. It can to support learning in different contexts, including school site and distance learning, separately or in combination, in which case can be understood as a form of blended learning.
Pedagogy/pedagogical	The method and practice of teaching. A teacher will develop their own pedagogical approach over the course of their career. It will be rooted in the teacher's own cultural understanding of the learning process, particularly in regard to their own specialist competence area.
Professional development	The learning that professionals engage in at any stage of their career to enhance their practice.
School head	The most senior school leadership position - the person with overall responsibility for the pedagogical and administrative

	management of the school or cluster of schools. This role might also be referred to as 'head teacher', 'school principal' or 'school director'. They can also be included in the broad definition of 'school leader'.
School leader	One who holds a formal position of responsibility for the management of the school. School leaders are also "teachers", as they are also still involved in learner development, both in and out of the classroom.
Schools as learning organisations	This is the concept of a school community that encourages and enables teachers and school leaders to improve both their pedagogical and their organisational practices concurrently through local collaborative research, networking and continued professional development. Such schools do not exist in isolation; they are linked and embedded within a learning system where decision-makers can learn from the developments that are taking place in and around schools.
Special Educational Needs	Learning problems or disabilities that make it harder for children to learn than most children of the same age.
Stakeholder	Stakeholders are individuals, groups, or formal organisations that have an interest in and/or responsibility towards improving school education. They include students, parents, teachers, school heads, local authorities, social partners, employer organisations, researchers, non-governmental organisations, and others.
Student teacher	Persons undertaking a formal course of theoretical and practical study in order to qualify as a teacher. Those leading such study are called "teacher educators".
Teacher	The role of the teacher combines pedagogical practice of the classroom with other tasks supporting the functioning and development of the school. They are responsible for their own professional development and that of their peers. They may also take on minor or temporary leadership roles – as project managers, peer mentors, or specialists in a particular competence.
Quality assurance	Quality assurance involves the systematic review of educational provision to maintain and improve its quality, equity and efficiency. It encompasses school self-evaluation, external evaluation (including inspection), the evaluation of teachers and school leaders, and student assessments.
Whole School Approach	This involves collaboration between all parts of the school. It needs a positive attitude towards working together between

school leaders, teachers and all school staff, as well as parents, carers and the wider community.