

INCLUSIVE DIGITAL EDUCATION

Project Examples

European Agency for Special Needs and Inclusive Education



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CONTENTS

LIST OF ABBREVIATIONS	3
1. INTRODUCTION	5
2. THEMATIC TRENDS IN EDUCATIONAL AND ICT PRACTICE	6
2.1 Digital transformation	8
2.2 Blended learning	10
2.3 Online courses, e-learning, web-based learning, online learning and remote learning	13
2.4 Inclusive teaching	17
2.5 Inclusive learning	18
2.6 Virtual reality (VR)	20
2.7 Augmented reality (AR)	21
2.8 Artificial intelligence (AI)	21
2.9 Massive open online courses (MOOCs)	23
2.10 Robotics and telepresence	25
2.11 Educational technologies	26
2.12 Leadership	29
2.13 Teacher training	29
GLOSSARY	31
REFERENCES TO ERASMUS+ PROJECTS	39
REFERENCES	45



LIST OF ABBREVIATIONS



Abbreviation	Full version
3D	three-dimensional
Agency / European Agency	European Agency for Special Needs and Inclusive Education
AI	artificial intelligence
AR	augmented reality
AT	assistive technology
BYOD	bring your own device
COVID-19	Coronavirus disease 2019
DS/ID	Down syndrome or other intellectual disabilities
EFL	English as a foreign language
EU	European Union
HE	higher education
HEI	higher education institution
HR	human resources
ICT	information and communication technology
MOOC	massive open online course
MR	mixed reality
NEET	not in education, employment, or training
OER	open educational resource
SEN	special educational needs
STEAM	science, technology, engineering, the arts and mathematics
STEM	science, technology, engineering and mathematics
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO IITE	UNESCO Institute for Information Technologies in Education
VET	vocational education and training
VR	virtual reality






1. INTRODUCTION



Education systems worldwide have adapted to unprecedented circumstances during the [COVID-19](#) pandemic. There have been rapid and comprehensive steps towards a [digitalisation](#) of education. Nevertheless, the COVID-19 literature review by the European Agency for Special Needs and Inclusive Education (the Agency) (2021) has shown that access to learning, especially for vulnerable learners, remains a challenge.

[Information and communication technology](#) (ICT) for [inclusion](#) has been an overarching issue across Agency projects and collaborations with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the UNESCO Institute for Information Technologies in Education (IITE). These activities have focused on how ICT supports inclusive education systems and on the importance of accessibility.

This project examples report is part of the outcomes of an activity entitled Inclusive Digital Education (IDE). IDE aims to thoroughly examine new priorities and demands in relation to inclusive [digital education](#) and [blended learning](#) during the period 2016–2021. This report collates a number of collaborative Erasmus+ projects dealing with certain aspects of inclusive digital education. It is part of a package of materials from the IDE activity, consisting of:

-  [Inclusive Digital Education](#) main report, providing a comprehensive overview of the study's results
-  [Methodology paper](#), describing the methodology used to examine new priorities and demands in relation to inclusive digital education and blended learning
-  Policy brief, detailing issues not yet sufficiently addressed in the field of inclusive digital education (forthcoming).

The [main report publication page](#) will contain links to all the materials when they are available.



2. THEMATIC TRENDS IN EDUCATIONAL AND ICT PRACTICE

Complementing the literature review, the study on inclusive digital education took an additional look at implementation projects to examine whether and to what extent findings from the field of science are reflected in (or close to) practice. The question arises as to which topics, that may already be considered state-of-the-art in the academic literature, actually make their way into educational practice. Here, practice-oriented co-operation projects in the field of education that are dedicated to the exchange, transfer and implementation of findings can be used as an indicator.

The European Union (EU) Erasmus+ programme database on on-going and completed projects was considered a suitable source to feed this indicator. The [Erasmus+ database](#) provides an overview of more than 178,000 projects and activities from between 2007 and November 2021. The vast majority of these projects concern so-called ‘Learning mobility of individuals’ and ‘Cooperation for innovation and exchange of good practice’.¹ It could be assumed that learning in projects in the second category takes place more at the organisational level and not only at the individual level (as in projects in the first category), and that innovations are also developed and tested in some of the projects. Hence, the selection of projects was limited to the second type.

Based on the literature review results, the search focus was placed upon projects running during the period 2016–2020. In November 2021, the database listed 20,789 projects in the time period 2016–2020. Projects initiated in 2021 were not part of the database at the time of retrieval.

Overlapping areas have been examined along three key spheres (here: inclusion, application and [technology](#)), and projects located in these overlapping areas have been looked at more closely. [Figure 1](#) shows the terms used for the search. Projects identified by this approach were further examined on the basis of their short descriptions in the Erasmus+ project database.

It should be noted that in the case of on-going projects (13,356 projects in the database had the status ‘ongoing’ at the time of the research), the brief description of the project reflects the planning status or the objective at the time of the funding application. Completed projects (a total of 7,266 projects had the status ‘finalised’ at the time of the research) contain a summary of the results achieved. However, this distinction can be disregarded in the context of the study, as it aims to examine trends and developments, but not to assess the extent to which these developments are promising or even successful. Accordingly, this report makes no distinction between on-going and completed projects.

¹ Other projects in the ‘Support for policy reform’ or ‘Jean Monnet Activities’ areas may also be of interest for the study objective. However, due to time limitations, the quantitative and qualitative analyses were limited to the co-operation projects mentioned.

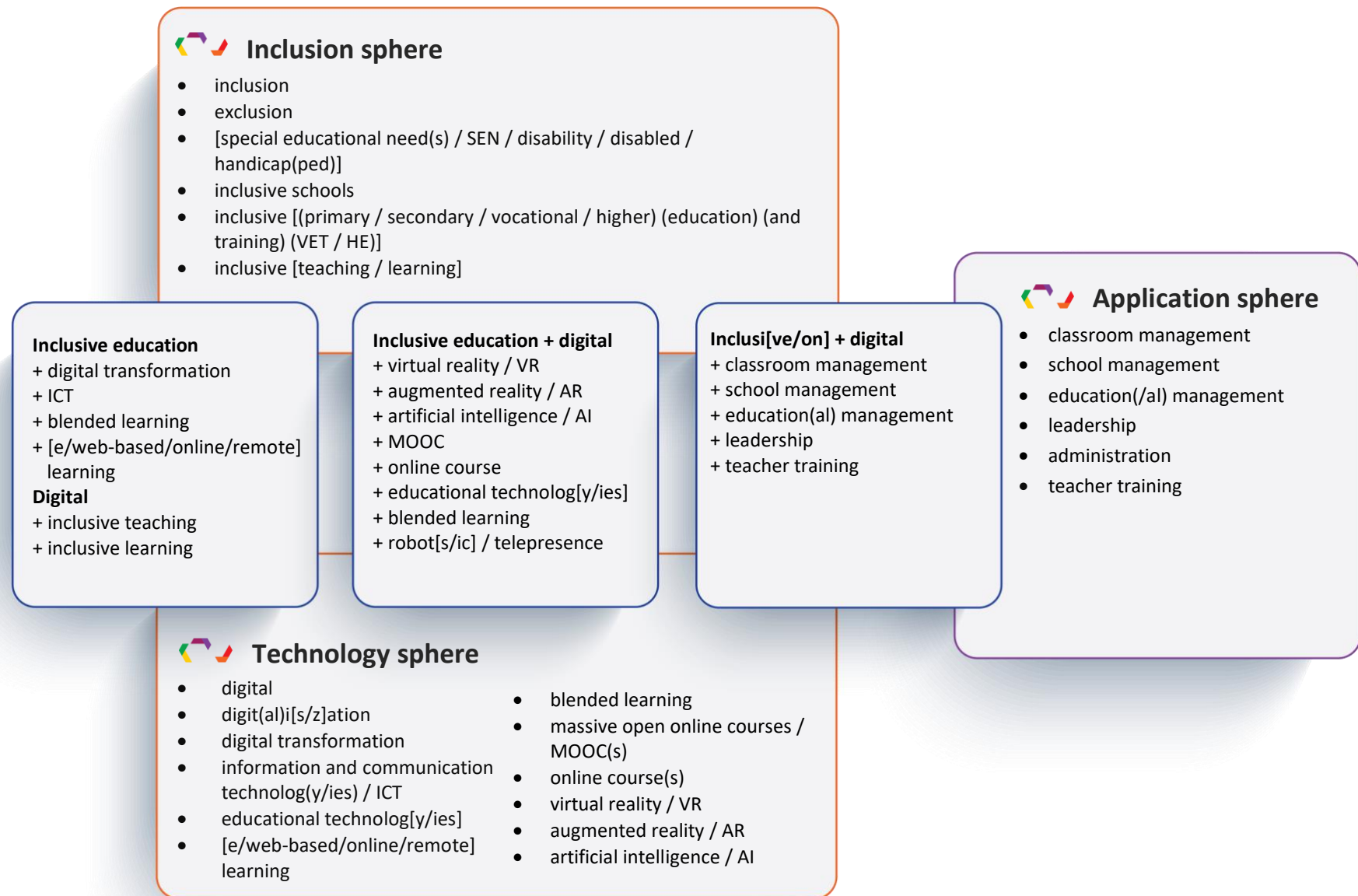


Figure 1. Selection of filter terms in the overlapping areas of the technology, inclusion and application spheres



In the search, a total of 158 projects were examined more closely with regard to the study focus. This document presents more than 100 of these projects, together with their main objectives.² The [References to Erasmus+ projects](#) section contains a full list of these. They are structured under the following headings:

- 🎯 Digital transformation ([section 2.1](#))
- 🎯 Blended learning ([section 2.2](#))
- 🎯 Online courses, e-learning, web-based learning, online learning and remote learning ([section 2.3](#))
- 🎯 Inclusive teaching ([section 2.4](#))
- 🎯 Inclusive learning ([section 2.5](#))
- 🎯 Virtual Reality (VR) ([section 2.6](#))
- 🎯 Augmented Reality (AR) ([section 2.7](#))
- 🎯 Artificial Intelligence (AI) ([section 2.8](#))
- 🎯 Massive open online courses (MOOCs) ([section 2.9](#))
- 🎯 Robotics and telepresence ([section 2.10](#))
- 🎯 Educational technologies ([section 2.11](#))
- 🎯 Leadership ([section 2.12](#))
- 🎯 Teacher training ([section 2.13](#)).

2.1 Digital transformation

According to the ‘Assessing Digital Maturity in Colleges’ project (2020-1-UK01-KA226-VET-094467), vocational education and training (VET) institutions face challenges in developing approaches to deliver high-quality, inclusive education virtually during digital transformation, while ensuring support is in place to help learners, teachers and trainers adapt to online/[distance learning](#). The project aims to support 50 VET colleges across the EU to adapt to new ways of digital working.

The ‘Innovative methods, approaches and practices for effective teaching STEM in an electronic environment’ project (2020-1-BG01-KA226-SCH-095199) identified the need to develop innovative online resources for high-quality, inclusive science, technology, engineering and mathematics (STEM) teaching, and to develop teachers’ specific digital competencies. An additional target group for the project is learners aged 10–18 with interests in the STEM and / or natural sciences field, including those who are disadvantaged due to low social and economic status, or from remote areas. The project aims to identify and summarise proven good practices for providing high-quality,

² Disclaimer: The project descriptions are based on information provided by the project co-ordinators and published in the Erasmus+ project database. No endorsement of the respective projects is associated with the listing in this document. Verification of the project information was not possible within the scope of this study.



motivating, inclusive education in an online environment through co-operation and sharing of expertise between partners.

‘Inclusive digital Education for Students and Families with fewer opportunities’ (2020-1-ES01-KA226-SCH-096121) aims to reinforce education and training institutions’ ability to provide high-quality, inclusive digital education. Project partners have designed a training plan to equip learners and families with the necessary competences to feel confident in using digital tools. The basic assumption of the project is that the digital gap cannot be solved just by providing learners with computers and internet access, but it could be at least mitigated by family training.

The ‘Pan-EU network of digital education passport centres in higher education’ project (2020-1-ES01-KA226-HE-095035) addresses the challenges that the digital transformation brought to higher education (HE), and that were accelerated by the pandemic. A lack of inclusiveness and personalised online teaching, and particularly a lack of mechanisms to foster inclusive education for at-risk social groups and learners from peripheries, have been observed. Hence, the project aims to boost universities’ digital readiness (holistically) for online education, while connecting universities in the digitally transformed ecosystem (i.e. with policy-makers, businesses, third sector, parents, etc.).

Pandemic-related home confinement and social distancing forced European VET providers to review current working practices and focus on remote delivery. According to the ‘Digital Transformation for VET’ project (2020-1-UK01-KA226-VET-094509), senior leaders and teachers have faced problems adapting to more blended or online-only curriculum delivery models. This has also highlighted differences between learners’ varying social profiles, with learners from disadvantaged backgrounds proportionally more impacted. The project aims to support teachers to provide these learners with the necessary tools and skills to undertake [remote learning](#). It also aims to train teachers about tools that support school digitalisation in the field of VET, including tools for creating online resources and for blended learning.

The ‘electronic Toolkit for eAccessibility in Higher Education Remote Settings’ project (2020-1-AT01-KA226-HE-092660) focuses on providing high-quality digital learning materials and content in an effective, attractive and engaging way. However, to enable this, the whole digital education experience needs to be inclusive, [accessible](#) and easy to understand and use for all learners, regardless of their abilities, digital readiness and cultural background. The project will develop a toolkit to support and empower HE teachers in building inclusive education materials. The toolkit will help to reduce the pandemic’s impact on learners with disabilities and contribute to the digital transformation of education, making it inclusive and attractive, changing and reshaping the present models.

The ‘Interdisciplinary Resilience through Science and Cultural Heritage Education Network’ project (2020-1-AT01-KA226-HE-092503) focuses on acquiring new skills and competences that strengthen creative potential and thus contribute to the [resilience](#) of the educational, cultural and creative sector. One of the planned outputs is the description of digitalisation processes for innovative and inclusive education – ‘Transforming finds from archaeological sites into e-learning materials’.



The ‘Virtual Reality-based Training to improvE digitAl Competences of teachERs’ project (2020-1-CY01-KA226-SCH-082707) has the ambition of providing effective education responses to educators’ training by using a novel [virtual reality \(VR\)](#)-based pedagogical approach for virtual practice phases. The project aims to address the need for modernisation and digital transformation of teacher education and training and reinforce educators’ digital skills and readiness through a VR training method and tool. Within the proposed VR framework, special emphasis is given to inclusiveness and multiculturalism, aiming to promote the delivery of high-quality inclusive education and ensure that no learner is left behind, even in a pandemic crisis.

One project wants to ‘Promote Open Source Technologies in non-formal Adult Education’ (2018-1-BE02-KA204-046848) to support the digital upskilling of both educators and learners. It aims to build the capacity of training organisations to deliver high-quality and relevant digital skills training to adults by improving staff competence with [open-source](#) technologies. This will prepare them for the on-going digital transformation which is reshaping society, the labour market and the future of work. However, this project only mentions inclusive education in its outline of the European Commission’s Digital Education Action Plan.

Similarly, the ‘Teacher Resilience’ project (2020-1-BG01-KA226-SCH-094958) links to the need to deliver high-quality inclusive education. The project aims to design, develop and test a school teacher resilience toolkit to equip educators with efficient strategies to prevent and handle burnout, and foster mental and health well-being. The ‘Music Virtual Academy: empowering performers through OERs for the digital transformation’ project (2020-1-BG01-KA227-ADU-094973) also references the need for high-quality and inclusive education, by enriching learning experiences while supporting effective use of digital technologies in [open educational resource](#) (OER) creation. Measures should be taken to develop methodologies and technological solutions for distance and distributed learning with digitally mediated access to cultural resources and experiences.

2.2 Blended learning

‘Learn To Engage - a modular course for botanic gardens’ project (2016-1-UK01-KA202-024542) aimed to build botanic gardens’ capacity to develop effective programmes and activities to engage people with plants. It aimed to enhance inclusive education in botanic gardens through practitioner training. The resulting modules used innovative blended learning models for training. They offered botanic garden and museum educator professionals a flexible professional development opportunity, and promoted equity and inclusion in botanic garden and museum education.

The ‘Blended Learning for Inclusion’ project (2019-1-FI01-KA201-060881) aims to empower educators to use blended learning in schools, in an attempt to deal with the social and educational exclusion of learners from disadvantaged backgrounds. The project plans to develop an innovative practical digital toolkit and a blended training course that will help teachers to use blended learning in schools based on the principles of inclusive education. Learners from disadvantaged and migrant backgrounds, and learners with educational difficulties are participating in the project.



The 'Teachers Competencies for Social Inclusion of Migrants and Refugees in Early Childhood Education' project (2019-1-PT01-KA203-060683) aims to create a blended learning course for pre-service and in-service early childhood and primary educators. The course will aim to improve professionals' ability to promote the inclusion of migrant and refugee children (3 to 8 years old) in early childhood education settings and to address the risk of social exclusion those children face. Furthermore, the project will create a virtual environment to host multimedia materials, and present a blended learning strategy which will include the selection of training activities and materials, learning assessment and a guide for teacher trainers.

The 'Student Technostress in Undergraduate Distance Education: a Navigation Toolkit for WELLness' project (2020-1-UK01-KA226-HE-094622) analyses the rapid transition from a predominantly face-to-face teaching model to an online-only or heavily blended learning model regarding its impact on learners. Learners in particular face several challenges, such as conflicting home demands, family commitments and inappropriate workspaces, which have a direct impact on the level of technostress they experience. Additionally, technostress contributes to social exclusion, since vulnerable learners (ethnic minority groups, low socio-economic status, caregivers, those with additional learning needs and/or other disabilities, and those with a diagnosed mental health condition) are at greater risk of technostress. Project activities are planned to lead to the creation of digital tools and methods to deliver high-quality, inclusive education online/virtually. These tools include blended learning and training, notably training resources in the form of toolkits and webinars for students, HE staff and higher education institutions (HEIs).

'Digitalisation and inclusive education: Leaving no one behind in the digital era' (2020-1-AT01-KA226-SCH-092523) plans to increase the participation of learners with various disabilities in digital education and respond to the 'Innovative practices in a digital era' priority by strengthening the profiles of teachers, hence fostering social inclusion. The goal is to empower and professionalise teachers from various age groups and school types, not only in the field of digital education but also in inclusive education. The project aims to foster dialogue between European countries on inclusive and digital education for learners with disabilities, professionalise teachers for this task, and exchange best-practice examples.

'Strengthening digital readiness giving voice to ALL pupils' (2020-1-AT01-KA226-SCH-092650) focuses on the disadvantages that migrant children faced during the pandemic's lockdown phases. To remediate the negative impacts of distance learning for underprivileged children and to strengthen them in a new situation of online and blended learning, the project argues that steady training of teachers and educators in dealing with discriminating patterns and an analysis of teachers' expectations towards parents' support are important, alongside [digital literacy](#) education and adapted [online learning](#) tools. The project objective is the development of educators' digital pedagogical competencies, enabling them to deliver high-quality, inclusive education in a blended learning setting, taking advantage of online tools and flipped classroom settings.

The 'Open up: engaging formal and non-formal education professionals in the inclusion of children and teenagers with sensory disorders' project (2020-1-FR01-KA201-080130) is a social innovation project that aims to develop professionals' capacity to ensure quality inclusive education for children and teenagers with visual and hearing impairments. The






project plans to increase training provision for formal and [non-formal education](#) professionals who will engage in blended learning to provide quality education.

The ‘Marketplace of Knowledge for Digital Education Methodology’ project (2020-1-HU01-KA226-SCH-094158) reflects on the special situation caused by the pandemic that emphasised the importance of the proper use of digital devices in education, and the opportunities and challenges in online [distance education](#) and blended learning. The project plans to establish an online support [learning platform](#) to enable teachers to deliver an analogous online version of contact activities, maintaining the core guiding concepts and principles used in classroom activities as much as possible. The interactive online teaching platform would simulate a physical class, enabling the teacher to carry out activities online that are normally done physically in class. The project claims to aid the inclusive education of children with learning difficulties and other challenges.

The ‘Inclusive University Digital Education’ project (2020-1-UK01-KA226-HE-094428) focuses on learners who require some level of support or consideration to be fully included in HE, to ensure they do not get left behind as online and blended learning become more prevalent. Particularly in HE, awareness of [accessibility](#) and support strategies tend to be in ‘silos’ of knowledge, such as equality and diversity units, student support centres, student enabling centres or faculty representatives for diversity and inclusion. The project’s objectives are therefore to provide an easy way to search and access free and open tools for online accessibility; to create a practical, step-by-step resource that guides lecturers through setting up online teaching sessions that are accessible to a wide range of learners; to create guidelines of considerations that can help lecturers to make their teaching scheduling and practice more inclusive.

The ‘Building Capacity for Inclusive Education in Digital Environments’ project (2020-1-NL01-KA226-HE-083100) highlights evidence that inequality of opportunities persists throughout HE. Characteristics such as sexual orientation, gender, ethnicity, skin colour, religion, able-bodiedness or socio-economic status, among others, often influence access to, success and belonging in HE. Lockdown education experiences show that vulnerable students have been disproportionately affected by the measures taken, putting those groups that were already struggling at an increased risk of exclusion. Hence, the project aims to:

-  support educators in implementing inclusive models of digital education in blended and hybrid environments;
-  assure that the accelerated transition to digital education prompted by the pandemic does not exclude vulnerable groups from participation in HE or exacerbate existing inequalities;
-  take advantage of the opportunities of [digitisation](#) to reduce structural barriers for exclusion.

One of the tangible results will be a Handbook for Inclusive Digital Education, which will propose a vision for inclusive education that covers hybrid and blended learning contexts.

The ‘Cultural knowledge and language competences as a means to develop the 21st century skills’ project (2018-1-HR01-KA204-047430) created blended learning courses (online and face-to-face combinations). These courses applied a methodology connected



with rich European cultural heritage, presented in a form of a story. They applied innovative methodologies and tools to increase learners' cultural knowledge, developing relevant 21st-century key skills and improving learners' language competences for employability, social inclusion and well-being. Inclusion or inclusive education were, however, not at the centre of the project.

2.3 Online courses, e-learning, web-based learning, online learning and remote learning

The main objective of the '3D LAB: Making with brain, technology and hands' project (2017-2-PL01-KA205-039021) was to foster the growth of [informal](#) learning environments that provide opportunities for young people to engage in craft-making with the support of digital technology. It aimed to support youth workers/educators to improve their youth practice through online courses and a dedicated online platform. These courses acquainted them with new methods to facilitate young people's creative activities, and enhanced their ability to set up more inclusive learning environments, taking into account the participants' varied competences, experiences and interests.

'Street Food Opportunités pour la jeunesse' (2017-3-FR02-KA205-013673) addressed young people who were previously excluded from or marginalised in the labour market. It allowed them to develop an entrepreneurial skillset by delivering online courses that explored the business opportunities presented by street food. VET providers were expected to gain greater awareness regarding the importance of inclusive entrepreneurship education and new and improved resources to cater to the needs of disadvantage groups through the lens of inclusion, diversity and intercultural integration.

The overall goal of the 'Interactive Digital Content Platform for All' project (2020-1-ES01-KA201-083177) is to significantly contribute to increasing the number of online OERs accessible to learners with disabilities, with an emphasis on those with visual impairments. It will allow teachers and educators to easily produce rich online learning units which are accessible to learners with visual impairment and possibly additional disabilities. An online course on inclusive education will also be made available for the professional development of teachers, staff or any person interested in the education of learners with disabilities.





The 'Together towards genuine digital teaching and learning' project (2020-1-FI01-KA226-VET-092624) develops a training package/course for VET teachers to familiarise themselves with digital pedagogy and adopt new ways of using technology in a pedagogically meaningful way. The long-term impact of the project would be to increase the quality of VET education with reference to the use of digital learning environments and digital tools. Among other things, the project plans to develop a common inclusive digital-pedagogical model that can be exploited regardless of the digital learning environment, programs and tools that are in use. This model will include, for example, online learning quality criteria, good practices and examples of inclusive online learning. It also plans to create training material to improve VET teachers' skills in planning and implementing inclusive online courses.



The purpose of the ‘Empowering Digital Teachers in a changing world’ project (2020-1-DE02-KA202-007478) is to address the rising issue of teachers lacking the knowledge and [self-efficacy](#) to implement digital learning. Therefore, it aims to develop guidelines and an innovative training path to support teachers in applying digital learning. The guidelines and the training path will promote teachers’ sense of effectiveness and abilities, and by that means contribute to a purposeful integration of digital technologies in inclusive education. In addition, it places a particular focus on how inclusive teaching and learning can be addressed within digital learning. One of the tangible results will be an innovative online course for education professionals on inclusive education based on digital technologies.

The ‘PersOnalized teaChing: the Key to success in EducaTion - Tools’ project (2016-1-IT02-KA219-024220) supported schools to tackle early school leaving. It addressed all learners from the lowest to the highest level of the academic spectrum, developing methods and creating conditions for personalised teaching and learning in order to support each learner. To achieve this, the project built modular and graduated learning units (also in [e-learning](#) mode) to enable each learner to develop their own unique intellectual potential.

The ‘Designing Curriculum for Pre-school Teachers Who Work in Inclusive Classroom Settings’ project (2016-1-TR01-KA201-034660) aimed to design a training programme for pre-primary teachers. Outputs include:

-  a needs analysis to determine the specific needs of pre-primary school teachers in inclusive settings and to determine existing pre-primary practices in the EU;
-  the development of a new tool to evaluate inclusive pre-primary settings;
-  the design of a training programme/curriculum for pre-primary teachers to improve their professional and pedagogical skills in terms of inclusion;
-  the design of an open e-learning portal for pre-primary teachers.

The ‘Qualification for Minor Migrants Education and Learning Open access - On line Teacher-training’ project (2017-1-IT02-KA201-036610) was based on the need to strengthen teachers’ skills in the face of the multi-ethnic composition of classrooms, with a view to supporting all learners, including migrant learners, in accessing learning and inclusion. It offered teachers new tools based on network synergies and ICT to improve their skills for inclusive education. The project has fostered co-operation between the educational and social worlds, as if inclusion problems are not solved in the educational process, they can have immediate repercussions in the social sphere, generating school drop-outs or increasing NEET (not in education, employment, or training) rates. Training modules were also developed and placed on an e-learning platform.

The ‘Digital skilled Teachers Acting for Higher and Inclusive Education’ project (2018-1-IT02-KA201-048186) intends to promote interdisciplinary and inter-departmental collaboration methodologies to improve the professional development of those who work in education, training and youth. They aim to innovate and increase the quality and range of initial and on-going training, with the prospect of experimenting with innovative teaching practices based on social inclusion and digital skills. The project aims to train a group of teacher trainer experts to apply ICT (including e-learning platforms) to inclusive



education and provide the necessary skills to identify and articulate educational paths, including special interests that can be included in school curricula.

The specific objectives of the ‘Academy of Special Educational Needs’ project (2019-1-PL01-KA201-065079) are to learn about foreign models of diagnosis and support for learners with [special educational needs \(SEN\)](#) and to understand other solutions in the field of effective and creative use of ICT in developing learners’ key competences. It also aims to familiarise the management staff with facilities implemented into educational systems that apply inclusive education and teaching methods. Expected outputs are:

- 🎯 principles of institutional co-operation aimed at supporting learners with SEN;
- 🎯 encouragement of schools to implement the developed inclusive education solutions;
- 🎯 mechanisms to ensure educational achievement for all learners at risk of exclusion, with special emphasis on those with SEN;
- 🎯 international e-learning course on methods and ways of working with learners with SEN.

The ‘Dis-entrepreneurship (sic) community support centres: an innovative outreach programme to equip adults with disabilities with key competences (social entrepreneurial and digital)’ project (2019-1-SI01-KA204-060426) directly targets adults with disabilities. Access, social inclusion, gender equality and non-discrimination are among the priorities addressed in the project in relation to supporting the upgrade of their key competences – digital and entrepreneurial. The project aims to provide young adults with a three-stage upskilling pathway programme, including face-to-face and e-learning opportunities. This will help them to acquire, develop, assess and validate a set of essential competences (digital and entrepreneurial) to enable them to meet the needs of setting up and running a social enterprise.

The main goal of the ‘Technologically enhanced online opportunities for language learning in inclusive education’ project (2019-1-PL01-KA203-065062) is to prepare pre- and in-service English as a foreign language (EFL) teachers to face diversity in the EFL classroom. Other goals concentrate on:

- 🎯 raising their awareness of the need to deal with mixed abilities;
- 🎯 enhancing the quality of teacher training in social and cultural inclusion;
- 🎯 promoting ICT as an instrument to improve inclusion;
- 🎯 providing educators with strategies and resources to create learning environments that meet all learners’ needs;
- 🎯 organising seminars to advocate for non-discriminatory attitudes in teaching;
- 🎯 setting up a debate platform to share ideas on inclusion in EFL classes.

The ‘Lifelong education of people with Down syndrome or other intellectual disabilities: Innovation and inclusion in rural areas’ project (2020-1-ES01-KA204-083272) focuses on education for adults with Down syndrome or other intellectual disabilities (DS/ID) in inclusive settings and in rural areas. The purpose of the project is to promote, innovate and investigate training actions in rural areas that allow adults with DS/ID the chance to



acquire, update, or expand their skills for personal, social and professional development in inclusive teaching and learning contexts. Planned outputs include the definition, design and development of courses, training workshops, programmes, etc., linked to the on-going training of adults with DS/ID. These will focus on new concepts and visions of intellectual disability and methodologies of great pedagogical power, and will respond to their current training needs: co-operative learning, project-based learning, support models, mediational didactic approaches and service learning.

The ‘Smart Training Education Platform (STEP 3) - 30 Training Modules’ project (2020-1-DE02-KA226-VET-008016) is an answer to the challenges related to the rapid transition to new forms of e-training in the VET environment. The 30 new training modules developed will support the digital upskilling of VET trainers/teachers and tutors. The project is also focused on reinforcing the ability of VET providers to provide high-quality, inclusive digital education.

The ‘Writing for Inclusion’ project (2020-1-ES01-KA201-081827) focuses on raising awareness, changing perceptions and providing resources to implement inclusion through the concept of ‘Care in Education’. With regards to the project results, it will create an [open-access](#) learning platform to gather practices and transfer knowledge, skills and experiences between the project countries. Online materials will provide theoretical knowledge and practical resources about ‘Care in Education’ and explore new creation processes in digital storytelling for diversity.

The ‘Jobopportunities - Making Work for Young People Work!’ project (2016-1-DE03-KA219-023045) aims at preparing young learners and refugees for the modern world of work by equipping them with the soft skills, abilities and knowledge to be successful in a globalised world with its growing demand for flexibility, intercultural competence and ICT skills. A brochure with the ‘dos’ and ‘don’ts’ of working life, presentations about the local job market and other pieces of information have been created collaboratively. They make use of modern ICT, including online learning platforms and online collaboration suites, and are based on intense work during the project weeks.

The ‘Hum@n Networks for the Cooperation - A new inclusive methodology by virtual environments’ project (2019-1-ES01-KA229-063826) is focused on innovation, methodological change in the classroom and the development of digital competences. It involves changing the roles of teachers and learners to achieve more inclusive education and to improve social integration. It aims to make changes in the classroom, in schools, in societies and across Europe. This project works on European digital literacy for all agents involved in the educational process: not only learners, but also teachers, the educational community and families. The main topics are innovative practices in a digital era, gender equality/equal opportunities and social inclusion.

‘Inclusive Digital Education Access’ (2020-1-BE01-KA226-HE-082744) addresses the problem that many learners in HE (particularly vulnerable ones, who need more support and accompaniment) became disengaged from the learning process during the pandemic. The project aims to support the transition towards more inclusive digital education, by adapting the faculty pedagogy. The project will:

- build awareness of the importance of inclusiveness in digital education and its consequences on pedagogical practices;



- facilitate understanding of the importance of inclusiveness for the quality of digital education;
- develop a quality assurance system, embedding inclusiveness in all phases of the digital pedagogy;
- provide practical tools and evaluation instruments to guide faculty members in the evolution of their pedagogical practice.

The 'Inclusive Education and Distance Learning in Digital Era' project (2020-1-BG01-KA229-079264) aims to increase the quality and efficiency of teaching and learning by giving equal opportunities to all types of learners, in mixed classes, implementing inclusive education, e-learning and ICT. Objectives are to:

- give teachers opportunities to collaborate and share methods to create guidelines and materials for an Inclusive Education Framework and for e-learning at school;
- train teams of learners to understand how e-platforms and e-tools can differentiate learning processes;
- identify and share similarities and differences in different countries' practices in inclusive education;
- develop digital skills for both learners and teachers to create digital content using ICT.

2.4 Inclusive teaching

The 'Think... act....and make a better world' project (2016-1-IT02-KA219-024650) addresses the problem of a growing number of learners with behavioural problems whose skills acquisition is incomplete. They often live in situations of social, economic, cultural and linguistic discomfort and show alienation towards school and society. Inclusive teaching is mentioned as a means to foster efficient social integration, and technology is mentioned generally to support the acquisition of life skills.

The 'Golden Links - bringing inclusion into multicultural teaching' project (2017-1-PL01-KA204-038325) addresses the challenge for both teachers and learners to deal with learners from different, and often complicated, cultural backgrounds, which in consequence might cause various misunderstandings and sometimes even unintended results. In addition, educators' poor knowledge of the learning process itself, motivation strategies, use of ICT in the classroom, [social media](#) and educational policies are all identified important factors for an inclusive, professional teaching-learning process.

The 'Digital Storytelling Tools for Adult Educators' project (2019-1-PL01-KA204-065676) focuses on using and adapting different digital tools in adult ICT teaching/learning. Educators can use digital storytelling at all levels of the education system to help learners develop writing, presentation, organisational and problem-solving skills to reach effective digital inclusion.

The 'A is for App; Reading Fluency Apps for Struggling Readers in Primary School' project (2018-1-BE02-KA201-046853) deals with poor literacy. This is problematic in today's society as all information is digital or printed, and access to information influences



inclusion. This project uses the new learning opportunities that digital transformation offers to children with literacy problems to improve literacy in European primary schools. The project will support and train primary school teachers to use ICT-based methodologies and reading-fluency apps in a classroom setting to benefit readers who are struggling.

The ‘Digi-Science: Developing innovative practices in a digital era for the teaching of Natural Sciences’ project (2020-1-EE01-KA226-SCH-093387) addresses pandemic-related challenges by preparing teachers to deliver effective science education courses to their learners, within online/distance and blended settings. These courses mainly use online experimentation and virtual and remote science labs, within a concrete educational framework that is designed to foster the development of learners’ skills while addressing equity, diversity and inclusion challenges.

The ‘Digital inclusion’ project (2020-1-AT01-KA226-HE-092663) aims to provide teachers with the skills, knowledge and tools to deploy ICT-based interactive and e-learning technologies for inclusive teaching. The project will link the latest research findings on inclusive pedagogies, ICT-based learning tools and transcultural education to develop [software](#) applications for teacher education. A core and innovative aspect of the project is ensuring teachers with special needs, multilingual teachers or hard-to-reach teachers who work in remote and marginalised areas are included in every step of the development and delivery of educational material.

The ‘Digital and Virtual music tools to Become an Experimental School’ project (2020-1-IT02-KA229-079201) introduces an innovative digital, transversal and inclusive music teaching method, as well as interdisciplinary teaching that uses music as a common thread. The project aims to have a significant impact on pupils’ learning styles and stimulate interest and motivation by including ICT in music teaching. It also aims to contribute to learners’ development of key transversal and life skills by innovating teaching methodologies and renewing approaches to music teaching in an interdisciplinary way and by using ICT, and to adapt the skills and methodological tools available to teachers to respond more effectively to social challenges.

2.5 Inclusive learning

The ‘INnovative TEaching Method for an Inclusive School’ project (2016-1-IT01-KA202-005354) introduced the ‘flipped classroom’ teaching methodology in VET centres, based on ICT and an innovative learner-centred pedagogical approach. It aimed to increase the quality of teaching and learning, reduce school drop-out and support the modernisation of education and training systems.

The ‘Inclusive and innovative STE(A)M education for students with special education needs’ project (2019-1-PT01-KA201-060762) aims to enhance schools’ capacity to provide inclusive and efficient science, technology, engineering, the arts and mathematics (STEAM) education to learners with SEN to enrich their learning experience and employability opportunities. Expected results include practical learning tools (to be used online and/or in the classroom) that teachers can use to teach STEAM subjects to learners with SEN in a more attractive manner, and guidance and recommendations for school managers to ensure inclusive learning environments in schools that facilitate STEAM education for learners with SEN.



The 'Enhancing University Language courses with an App powered by game-based Learning and tangible user Interfaces Activities' project (2019-1-IT02-KA203-063228) aims to improve/integrate the learning methodologies for Erasmus students in university language centres in four countries by developing innovative and inclusive learning tools. These tools are based on the mobile learning paradigm and game-based learning methodology and apply tangible [user interfaces](#).

The 'Inclusive and Innovative Pedagogies for Educators' project (2020-1-SE01-KA202-077899) will develop a suite of training resources to provide educators with the knowledge, skills and confidence to create genuinely engaging learning experiences in three key areas:

- 🌈 diversity and inclusion with 'differentiated instruction' as a structured approach to pro-actively cater for learner diversity;
- 🌈 innovation for 21st-century skills, with a good practice compendium to broaden and deepen educators' skillsets by showcasing and providing guidance on the most effective pedagogic approaches in fields such as experiential learning, learning through games, [collaborative learning](#), etc.;
- 🌈 digital technology, a toolbox to empower educators to understand and harness the next generation of digital tools, putting technological solutions at the service of pedagogy, and boosting their differentiated and innovative teaching.

The 'Creation of a Collaborative Environment in e-classrooms' (2020-1-DE02-KA226-VET-007926) project's main objectives are:

- 🌈 building and strengthening teachers/trainers/educators' capacities in the deployment of online resources that facilitate collaboration and inclusion among learners in the e-classroom;
- 🌈 promoting a collaborative, inclusive and culturally-aware environment in the e-classroom using blended education methods (formal, non-formal, informal);
- 🌈 developing innovative activities, tools and education methods with a focus on collaboration and inclusion, and responding to the needs of the e-classroom environment;
- 🌈 supporting transnational educational institutions (universities, institutes, VET providers) in collaborative and inclusive digital learning;
- 🌈 reinforcing VET providers' ability to provide high-quality, inclusive digital education.

The 'Skills & Knowledge on Assistive Technology in Early childhood inclusive education' project (2020-1-BE02-KA201-074810) aims to impact the quantity and quality of inclusive early childhood education. It will do this by generating knowledge on the appropriate use of digital and mostly innovative technologies in early childhood education and disseminating this knowledge through multiplier events and publications. It will involve deploying smart toys, sensor technology, simulated environments, robots, kinematics, etc., as well as specific [assistive technologies](#), such as those based on eye gazing, voice control and movement tracking.



2.6 Virtual reality (VR)

One project, aimed at ‘Empowering spatial thinking of students with visual impairment’ in secondary education (2016-1-EL01-KA201-023731), integrates [augmented reality](#) (AR), virtual reality (VR) and 3D printing in staff training and educational practice. The ‘Comics for Inclusive English Language Learning’ project (2018-1-UK01-KA203-048195) is a collaboration between comic artists, language teachers and learning technology researchers. It creates innovative, open educational resources that enrich teaching practice and support dyslexic learners. It aims to improve the visual literacies of second language educators, making learning more visual through static (e.g. comics, mind maps), dynamic (e.g. video) and interactive visuals (e.g. VR).

‘#ShareEurope: Sharing interactive education in virtual and mixed reality’ (2019-1-BG01-KA201-062321) aims to support the implementation of innovative teaching methods through the integration of VR and mixed reality (MR) technologies in educational approaches. One of the main objectives of this project is to ensure high-quality, inclusive education through enriching learning experiences, while supporting effective use of digital technologies and encouraging activities that link learning with real-life experience by applying VR and MR.

The ‘Dissemination of innovative education through storytelling using modern non-formal education’ project (2019-3-SK02-KA205-002367) focused on building inclusion and understanding between disadvantaged groups of people and the majority of society in the Slovak Republic and Czech Republic, using an online storytelling tool to build critical thinking with VR technology. ‘Digital Learning Materials for Sustainable Textile Education’ (2020-1-TR01-KA226-VET-098141) aims to integrate technology into courses to engage learners in immersive learning experiences, whether teaching in class or remotely. It explores the potential of using VR to deepen understanding and enhance learner engagement by eliminating the screen and placing learners in real situations.

The goal of the ‘Digital pedagogy to develop Autonomy, mediate and certify Lifewide and Lifelong Language Learning for (European) Universities’ project (2020-1-FR01-KA226-HE-095526) is to co-develop an innovative approach and digital tools to:

- 🎨 facilitate mediation in all dimensions of language learning (taking into account both formal and informal situations);
- 🎨 build all language learners’ capacity and autonomy;
- 🎨 develop or upgrade language educators’ digital/blended pedagogy competence;
- 🎨 facilitate the recognition and validation of knowledge, skills and competences.
- 🎨 Among other results, it plans to develop VR and [gamification](#) for inclusion and language learning interaction.

‘AccessibleEU - For an accessible, digital and inclusive Europe of citizens’ (2020-1-FR02-KA227-YOU-018677) aims to make European civic education more inclusive and accessible for everyone. By creating intellectual products that reinforce the digital competences of teachers and educational staff, it will lift constraints on digital European education. One of the results is expected to be a game to raise awareness of European mobility by allowing learners to experience it through VR.



The ‘Future schools using the power of Virtual and Augmented Reality for education and training in the classroom’ project (2018-1-RO01-KA201-049411) introduces (mainly) VR and AR into the classroom to increase educational engagement. It aims to train and motivate teachers to use new technologies and online educational resources, such as VR and AR, in their classrooms, and to develop VR lessons for science disciplines and cross-curricular topics that impact learners’ development. These could include: motivation to study, job orientation, foreign languages, inclusive education, preventing school drop-out.

2.7 Augmented reality (AR)

The ‘Empowering spatial thinking of students with visual impairment’ project (2016-1-EL01-KA201-023731) was already mentioned in the [Virtual Reality \(VR\) section](#), but also deals with augmented reality.

The ‘Towards a Multisensory and Inclusive Museum for Individuals with Sensory Disabilities’ project (2019-1-RO01-KA202-063245) aims to respond to the societal demands for equal access to cultural goods for all, as well as to new social changes and challenges. According to the project, new technologies have changed the very concept of participation, as well as audience demands and how museum experiences can be enriched (e.g. access to online information and cultural goods, social media, virtual tours, accessible multimedia, quick response codes, digital games, digital storytelling, videos, interactive exhibits, online educational material, augmented reality).

The ‘Inclusive Peer Learning with Augmented Reality Apps’ project (2020-1-DE01-KA203-005733) aims to streamline the adoption of AR technology in educational practice. The project will create innovative OERs for educators that help to implement and integrate active and collaborative learning pedagogical approaches supported by AR. It plans to enrich teaching practice and support inclusive, peer-to-peer learning that is relevant to learners’ requirements and preferences.

2.8 Artificial intelligence (AI)

The school exchange partnership ‘CALL TO SKILLS! - CALL TO action for developing pupils’ Key and soft SKILLS’ (2020-1-PT01-KA229-078412), however, emphasises that studies have shown that employers and hiring managers value skills like creativity and collaboration over technical abilities, such as computing or knowledge of [artificial intelligence](#) (AI) technology. Hence, the project aims to enhance these important key skills, which school curricula cannot always cover or develop, despite the trends coming from the European labour markets.

The ‘Level Up - Digital Skills for Adults with Blue-collar Occupations’ project (2018-1-TR01-KA204-058746) is a response to Europe’s concept paper on digitisation³, employability and inclusiveness. It aims to define digital skills for blue collar workers, create training content to teach them, and have an online tool so that they can keep up with the digitisation and

³ The concept paper cited here uses the term ‘[digitisation](#)’ differently from most other documents. For example, the paper names [robotics](#) and [artificial intelligence](#) as examples of ‘digitisation’. As far as can be seen, the paper’s use of ‘digitisation’ refers to what this study calls ‘[digitalisation](#)’.



have a sustainable work life in the digital age. AI is mentioned as one of several new technologies that will accelerate Europe's digital transformation.

Similarly, the 'Science Connect' project (2019-1-RO01-KA201-063169) uses AI as an indicator of today's technological development and aims to make digital education equitable and inclusive, among other things, by changing learners' perspectives on science and technology to contribute to their improved knowledge and skills. The 'Environmental Sustainability and STEAM' project (2020-1-IT02-KA229-079785) also recognises the context of rapidly developing new technologies (including AI) and highlights the relevance of humanistic skill profiles for the future workforce. The project aims to create an educational path towards knowledge and skills for sustainable development, to deliver a practical verification of whether or not this method responds to learners' (STEAM) needs, and to define inclusive and innovative features.

'Artificial intelligence to improve the employability and empowerment of young Europeans' (2018-1-FR01-KA201-048131) promotes tolerance, respect for others and a sense of autonomy in favour of an inclusive society by performing a series of hackathons (events in which groups of people engage in collaborative computer programming), but without a particular focus on inclusive education.

The 'CAIR 4 YOUTH' project (2020-1-UK01-KA227-YOU-094544) aims to support professionals in the youth sector in acquiring and developing creative sector skills in working with coding, AI and [robotics](#). The youth population is particularly vulnerable with regard to [emerging technologies](#) and has not yet been empowered to critically engage in the discourse surrounding the next generation of technologies that have a marked potential to shape their lives for better or for worse. Questions involve the intersection between AI and youth (ages 13–30) in the context of domains such as leisure, education, health and well-being, and the future of work. However, the project's reference to the topic of inclusion is limited to its positioning within the framework of the European Commission's strategy for an inclusive, lifelong-learning based and innovation-driven approach to education and training.

The 'JIMINY - Journey to Increase your techniques of eMotional Intelligence, digital awareNess and entrepreneurship lilestYle' (sic) project (2019-1-RO01-KA204-063136) aims to develop an AI-driven personal trainer capable of securing and supporting learning and upskilling processes. It is expected to be able to diagnose individual needs and provide a customised learning path as an instant remedy. Beneficiaries will be members of disadvantaged groups (low qualified persons, unemployed, adults at risk of poverty, etc.) and the results are expected to contribute to their social inclusion.

The 'Advancing Digital Competence in Higher Education' project (2020-1-PL01-KA226-HE-096098) is a joint effort from HEIs aiming to support HE teachers in tackling their digital competence gaps and mismatches by creating an open platform which integrates a competence assessment tool and a complementary database of tools and resources that are available online. These tools will make use of AI. The project also aims to prepare a set of recommendations for stakeholders and decision-makers that should help build the capacity of HE systems for more inclusive online education.

The 'VRAILEXIA- Partnering Outside the Box: Digital and Artificial Intelligence Integrated Tools to Support Higher Education Students with Dyslexia' project (2020-1-IT02-KA203-



080006) aims to create a network of HEIs engaged in understanding and developing inclusion strategies for dyslexic learners and enhancing their chance of success in their academic careers and integration into the labour market. The general objective is to develop strategies to include learners' untapped talents and strengths. Among the tangible results, the project plans to develop an adaptive learning environment based on informed AI to support learners with dyslexia.

The 'Training 4 Skills in Virtual Environment (T4SVEN)' project (2020-1-HR01-KA226-VET-094781) aims to develop a methodological framework and pilot an online training course to support VET teachers in applying digital technologies to sector-specific skills training in digital or blended learning environments. Results are expected to equally strengthen international co-operation in digital transformation of education and advance the inclusiveness of VET by developing an open-source methodology for further transfer and adaptation. The project claims to respond to the need for innovative, digital teaching approaches, such as simulations, AR/VR or AI, to teach practical skills in VET sectors that bore the brunt of the COVID-19 crisis, such as tourism, hospitality and transportation.

'Artificial intelligence for everybody – stronger with AI' (2020-1-IS01-KA226-VET-082813) aims to offer accessible personalised training via a website that is designed to provide a pleasant learning experience and to facilitate repetitive learning behaviour. It aims to increase the participation of underprivileged target groups that train on the website, including adults without a high school diploma and learners that struggle to study on their own due to COVID-19. The project will develop a course on AI which has the goal of introducing the technology to the general public, understanding what AI is and how it is entering the labour market. The project thus contributes to improvements in skills levels for employability and competence, opportunities for professional development, and labour market needs.

2.9 Massive open online courses (MOOCs)

The overall objective of the 'SUCCESS4ALL project: E-course on Entrepreneurship Skill - an inclusive education approach' project (2016-1-FR01-KA203-024269) is to develop an innovative e-learning platform, possibly in the form of a [massive open online course](#) (MOOC), enabling learners from European universities to access entrepreneurial skills training, focusing on people with special needs by integrating them and adopting an inclusive education approach.

The 'Entrepreneurship Education for Cultural Tourism' project (2016-3-DK01-KA205-033887) aims to offer education on cultural tourism entrepreneurship to disadvantaged groups. One of the project objectives is to foster inclusive education that combats any kind of discrimination or racism in order to strengthen social ties and generate a sense of belonging. Impact on selected participants will be measured in terms of improvement in participants' entrepreneurship, cultural tourism knowledge and skills, foreign languages, use of office technology and digital tools (MOOCs), and intercultural communication skills.

The 'D.I.S.I. - Digital Innovation for Social Inclusion' project (2017-1-IT02-KA204-036811) addressed the phenomenon of social exclusion due to poor literacy skills among many external and intra-EU migrants, which limits their possibility of integration and their ability to exercise citizenship rights. The project confirmed that an additional level of



marginalisation exists for the target group – adult immigrants and refugees – resulting in a [digital divide](#). Hence, a MOOC was developed to address teachers, with view to facilitating their training on the use of ICT in language classes with the target group. The impact on the social inclusion of migrants who are illiterate or low educated has been assessed.

‘Designing for Personalization and Inclusion with Technologies’ (2017-1-IT02-KA201-036605) addresses the need for teachers to acquire new skills and innovative methods and tools to be able to deliver high-quality teaching, build flexible, personalised and inclusive educational paths, and deal with complex classroom realities. In the project, a MOOC has been set up to open the learning opportunities to other territories and to promote use of the methodology and the app that were developed in the project.

The previously-mentioned ‘#ShareEurope: Sharing interactive education in virtual and mixed reality’ project (2019-1-BG01-KA201-062321) is also using a MOOC to support teachers and school leaders in excellent teaching and learning by developing online communities and resources (especially OERs) to overcome barriers to participation.

The target groups of the ‘BYOD as educational method leading to improve employability of adults with intellectual disability’ project (2019-1-PL01-KA204-065657) are teacher trainers, teachers working with adults with intellectual disability, and adults with intellectual disability who are not participants in [formal education](#) and who have a developmental opportunity to work. The project focuses on elaborating a new educational methodology on how to apply new technologies in educational processes and on delivering materials and courses to target groups. It will prepare MOOCs for teacher trainers, teachers working with persons with intellectual disability, adults with intellectual disability and entrepreneurs presenting persons with intellectual disability as potential employees.

Students with disabilities have limited access to HE in India and Bangladesh. The ‘DIVERSASIA: Embracing diversity in ASIA through the adoption of Inclusive Open Practices’ project (618615-EPP-1-2020-1-UK-EPPKA2-CBHE-JP) aims to tackle this issue by making accessible HE OERs and MOOCs, and personalisation using AI, that will enable better provision of open distance learning for those who experience architectural/physical barriers. An innovative assessment and validation strategy will be developed for OERs (Shareable Content Object Reference Model – SCORM) and MOOCs to review and assess their level of accessibility and to enable further revision to reach certain accessibility levels. The project will also develop inclusive education guidelines consisting of flexible, broad educational and extra-curricular options.

The previously-mentioned ‘Digital Learning Materials for Sustainable Textile Education’ project (2020-1-TR01-KA226-VET-09814) will carry out a MOOC on the specified target learner groups (i.e. learners in textile education and new employers in the textile and apparel industry) which uses digital education to decrease the induction time of new employees in the textile sector.

During the pandemic, digital technologies and OERs represented a crucial way to support educational systems, enabling learners to continue learning in lockdown. However, they also proved a major barrier for some when access, equipment or skills were lacking. The ‘Open Learning for All-enhancing digital Open Educational Resources for inclusion against stereotypes’ project (2020-1-IT02-KA226-SCH-095468) therefore aims to build the



capacity of educational actors and stakeholders to create, access, re-use, adapt and redistribute OERs. Furthermore, it aims to encourage inclusive and equitable OER quality, as well as OER models focused on the analysis of a variety of stereotypes (moving from, but not limited to, gender). Tangible results will be five MOOC modules for primary and secondary school teacher training, and 80 inclusive and equitable high-quality OER scenarios in STEAM-related subjects, including multi-disciplinary and civic/citizenship issues.

Finally, the previously-mentioned ‘Inclusive Peer Learning with Augmented Reality Apps’ project (2020-1-DE01-KA203-005733) develops new materials, including a toolkit of educational AR apps and platforms supplemented by teacher guidelines, a compendium of best practices, and a competence framework for AR educators. These are all available independently as OERs and delivered as a MOOC with professionally-designed audio-visual material.

2.10 Robotics and telepresence

The ‘Inclusive preschool by digital VAK’ project (2017-1-LV01-KA201-035433) aims to support those learners in pre-primary education (aged 4 to 7 years) who cannot fully be involved in traditional learning process and, due to specific learning difficulties, need supplementary support to develop these learning skills. One of the digital tools developed for pedagogical work is an early robotics programme for the development of motor skills.

‘Taking a learning journey on the STEAM train’ (2019-1-UK01-KA229-061773) aims to keep up with the latest pedagogy and best practice in European education and social inclusion through digitalisation, game-based learning, robotics, integrated science, arts and mathematics with digital devices (STEAM). It aims to be inclusive to all ages, abilities and genders, including for children from disadvantaged backgrounds and/or with special needs. Objectives include using structured courses during staff training, with effective methods of interactive teaching and learning based on web tools 2.0 and robotics, and phenomena and inquiry-based learning, essential tools to deliver 21st-century lifelong teaching and learning strategies and to develop critical thinking and problem-solving skills and research techniques.

The main objective of the ‘Digital Inclusion: Transforming and Internationalizing Schools through Technology’ project (2020-1-ES01-KA201-082122) is to extend and develop educators’ competencies, including their digital skills and knowledge of ICT tools, to create inclusive classroom environments. Such knowledge is aimed at a better integration of all learners, with a consequent improvement of their academic results and motivation to continue with their education. The indirect target group is children of foreign origin who enter school late and often do not speak the local language, such as unaccompanied minors, and children with disabilities or long-term health problems, who cannot attend school regularly and whose learning is therefore affected. One of the project results is expected to be lesson plans for teaching English, mathematics and robotics.

The ‘Digital Technologies for Lecturing and Learning’ project (2020-1-CZ01-KA226-VET-094346) is primarily focused on innovative education practices in the digital age, based on research concerning the needs of VET institutions and industry during the pandemic. Learners will be provided with a set of study materials with an emphasis on advanced



technologies that have not been widely used in education yet (e.g. spherical video, stereo video, [telepresence](#), etc.). Virtual internships (or ‘exchanges’ of learners) will be organised within the project as a large-scale pilot to demonstrate and test the strengths and weaknesses of this approach.

The ‘Telepresence experience network - information on children’s learning’ project (2020-1-DK01-KA201-075142) aims to establish a network to support children in marginalised situations, particularly those with long-term illnesses or in hospital. The project aims to provide several ready-made practical methods to use telepresence quickly and easily. This will especially be aimed at staff and teachers who are directly in contact with learners using telepresence. The network plans to share knowledge on the subject of learning with technological aids, and to distribute insight knowledge on work with telepresence and further developments in the field.

The ‘TRinE - Telepresence Robots in Education’ project (2020-1-MT01-KA227-SCH-092408) is concerned with the use of telepresence robots in educational institutions at the upper-secondary and HE levels, such as in classrooms and other (e-)learning settings. Throughout its course, the project will deliver:

- 🌐 materials to support decision-making;
- 🌐 guidelines for the implementation of telepresence robots in the education context;
- 🌐 a set of innovative teaching scenarios;
- 🌐 a do-it-yourself buying, building and operating guide;
- 🌐 an interactive toolkit, with the results published and evaluated using a technology acceptance model.

The ‘Advanced Virtual and Augmented Reality Toolkit for Learning’ project (2020-1-FR01-KA203-080184) mainly addresses VR/AR technology. However, it is also concerned with VR/AR-enabled telepresence that allows high-quality distance learning and self-learning, offering learners a rich experience even if they cannot access laboratory facilities and/or get in touch with real components. To pursue this objective, a set of workflows will be developed, which describe and formalise how to implement learning activities in engineering, taking advantage of VR/AR tools.

2.11 Educational technologies

The ‘Designing for Personalization and Inclusion with Technologies’ project (2017-1-IT02-KA201-036605) that was previously mentioned addresses the challenge presented by new educational technologies and the use of multimedia instruments within schools, which require new ways of designing, managing and organising learning paths and educational material. The ‘Future schools using the power of Virtual and Augmented Reality for education and training in the classroom’ project (2018-1-RO01-KA201-049411), also mentioned before, introduces VR and AR as educational technology in the classroom, to increase learners’ educational engagement. The ‘Innovative Keys for Social Entrepreneurship: Piloting for VET Providers Readiness Innovative practices in a digital era’ project (2020-1-BG01-KA226-VET-095173) aims to deploy innovative educational technologies and methods to deliver quality and inclusive education online/virtually,



including blended teaching, training and learning, and supporting learners, teachers and trainers in adapting to online/distance learning.

With regard to classroom management, the ‘Tackling School Discipline Issues with Positive Behavior Support’ project (2016-1-HR01-KA201-022147) focuses on preventing school failure and promoting a socially inclusive schoolwide framework to include the increasing number of learners with diverse academic and behavioural needs. Specific activities relate to a school violence and discipline ecosystem map and gap analysis, a methodological framework and evidence-based practices on school discipline, an instructional guide on schoolwide positive behaviour supports, a teacher guide for professional development on direct social skills instruction, and modules on effective classroom management. However, from the project description it remains unclear to what extent new technologies will be used to achieve these results.

The ‘Culture, Creativity, Inclusion’ project (2020-1-IT02-KA227-SCH-094804) aims to increase interculturality, creativity and innovation and hence addresses teachers as its main target group. It plans to:

- 🌈 offer innovative and motivating strategies for the social inclusion of learners, using national and European cultural and artistic elements;
- 🌈 provide non-formal intercultural education activities, through the exchange of good practices;
- 🌈 offer the possibility to create efficient digital resources for learning about European cultural diversity and the appreciation of common European values;
- 🌈 offer professional development to partner institutions, promote attractive non-formal teaching, and support schools in their regions with European digital educational resources.

Among the expected results is the acquisition of information on classroom management for inclusive education.

With regard to educational management, the ‘Flexible Tailored Learning Pathway for Everyone’ project (2020-1-EE01-KA202-077960) aims to improve the skills of the teachers, trainers and key persons in inclusive and tailored learning processes in VET institutions. It plans to create a [web-based](#) competence collection of educational approaches and methods and increase the trans-national operating capacity. At the project’s core is the improvement of flexibility, accessibility and inclusion in education through tailored pathways, promoting the quality of VET by increasing the skills of the people who are responsible for putting it into practice – educators, education specialists, keypersons in educational leadership. The main impact expected of this project is an improvement in the quality of teaching and educational management.

With regard to school management, the ‘HistoryLab for European Civic Engagement: open e-Toolkit to train History Teachers on Digital Teaching and Learning’ project (2020-1-ES01-KA226-HE-095430) will implement an intervention in HE for history teachers in initial training at universities. It is expected to change the approach to teaching and learning history and the role and critical abilities of learners in secondary education. This intervention includes creating a joint curriculum document for a common cross-cutting framework, a library of digital resources and 35 teaching and learning units on European



history, using active learning methods and emerging technologies in a multicultural, inclusive, social and gender approach to equality. It ultimately plans to create collaboration networks between history researchers, universities dedicated to training history teachers, regional educational entities, school management teams and associations of Secondary Education teachers, to establish collaborative frameworks for transferring academic and educational knowledge.

The ‘International Cooperation of Vocational Schools with Practical Training in the Context of Digital Education’ project (2020-1-CZ01-KA226-VET-094374) addresses the lack of a methodology for online practical education in secondary vocational schools. The main topic of this strategic partnership is the comparison of ideas, plans and thoughts on how to solve the fundamental problem revealed by the immediate switchover of schools to distance education: How to secure, in pedagogical and, above all, technical terms, meaningfulness and effectiveness of online teaching in vocational subjects that implement practical education. One of the project outcomes will be a comparison of the digital education systems in secondary vocational schools with practical training in selected European countries and a panel discussion on effective inclusion in a high-quality education process.

The ‘Digital Inclusion – DIGINC’ project (2020-1-SE01-KA226-SCH-092560) aims to create an innovative model for modernising education and confronting the risk of exclusion for persons with learning disabilities and difficulties or who for other reasons are limited in taking part in internships, by developing more engaging, motivating learning and teaching experiences through the use of digital internships. Actions will contribute to building digital education readiness and mitigating the impact of the pandemic.

The main objective of the ‘ACT in Education’ project (2020-1-NL01-KA226-SCH-083022) is to boost the transformation of schools and teachers through innovative digital infrastructures and services to enable learners to grow their talents and become active citizens, so that vulnerable learners are not left behind (social inclusion) and enjoy quality education. This is done by:

- 🌈 didactic and educational teacher training to enable them to use blended learning and sustain this as ‘the new normal’;
- 🌈 inspiring and challenging learners to start community projects for social inclusion using theoretical blended learning, and provide feedback as part of the learning cycle to their teachers and ICT support;
- 🌈 improving the knowledge and skills of management, staff and teachers so that they learn to implement innovative blended curricula on citizenship, understand the needs and opportunities and integrate it into their (ICT) strategy and management, strengthening local and national ecosystems;
- 🌈 sharing lessons learned internally and externally.



2.12 Leadership

The 'Inclusive Leadership – nowe podejście do wzmacniania i rozwoju osób ze środowisk defaworyzowanych' project (2016-1-PL01-KA204-026768) aimed to increase the effectiveness of development programmes for individuals from disadvantaged groups by elaborating an innovative approach to inclusive leadership and introducing it into leaders' practice. The project's long-term goal was to contribute to increased social competences and readiness to develop people from disadvantaged groups (migrants, refugees, people from rural areas and people with disabilities). Among the tools that were developed to accompany those on the journey towards inclusive leadership were an online tool that gave a first taste of inclusive leadership and an initial [self-assessment](#) of their practice, as well as recommendations for next steps.

The following two Erasmus+ projects addressed inclusive leadership in relation to companies and organisations, but there is no explicit reference to the education sector, which could also benefit from inclusive leadership. However, the project descriptions give no reason to doubt that transferability to educational organisations is possible.

The 'SENSENET - Social Enterprises Sustainability Network' project (2017-1-FR01-KA202-037486) developed existing state-of-the-art diversity and inclusion practices focused on improving the performance of managers and human resources (HR) in social economy organisations to strengthen the potential of the most vulnerable workers. Furthermore, it created an online self-diagnostic tool for managers and HR managers to assess their performance in terms of managing diversity and inclusion within their organisation, and a learning programme on diversity and inclusion. The programme aims to provide managers and HR managers with the necessary skills to integrate diversity into their recruitment and management processes and thus improve the performance of their organisation in terms of cohesion and social innovation. Some project elements were tested during an online staff training activity carried out in an original, interactive format.

The objective of the 'Inclusive Leadership in the Digital Age' project (2019-1-DE02-KA202-006246) is to support small and medium enterprises, small and medium organisations and start-ups in the challenges arising from digital change by providing them with an up-to-date, inclusive leadership approach. To achieve this, the project has developed teaching and learning materials for leaders and individuals who would like to or who should accept more responsibility. These materials allow leaders to master 'inclusive leadership in the digital age' one step at a time alongside their work. In addition, training providers and voluntary trainers in vocational education can use the materials and model curriculum to offer training to the target group.

2.13 Teacher training

The aim of the 'Tolerance - Education - Responsibility - Respect - Act - Vitality - Inclusion - Talent - Ability' project (2017-1-BG01-KA201-036270) was to improve teachers' pedagogical and digital competences to advance the educational environment and make the learning more interesting, useful and accessible.



The ‘Inclusive Childhood education supported by multimedia and Digital storytelling’ project (2019-1-IT02-KA201-063086) aims to develop a set of guidelines/recommendations (pedagogical approach, methodology, spaces, tools, best practices), with related competence frameworks and training guidelines, for teachers to design and foster inclusive activities and practices through tangible digital storytelling strategies in childhood education (primary school age, 6–10).

As they can be outside the school system for an extended period, secondary-school-age refugee learners can lag behind in literacy, numeracy and digital competences. In order to enhance their performance, thus reducing early school leaving in Malta, Greece, Italy and Cyprus, the ‘Extending teachers’ competences in the effective teaching of literacy, numeracy and digital skills to refugee children’ project (2019-1-MT01-KA201-051267) aims to extend and enhance secondary school teachers’ skills and competences in the teaching of literacy, numeracy and/or digital skills to refugee and/or migrant children with learning gaps due to interrupted education and with minimal native (or English) language skills. It does this through online training and by providing a diagnostic tool for effective assessment of literacy, numeracy and digital competences, and gaps and needs of refugee learners. It also promotes innovative practices – digital and non-digital – in teaching literacy, numeracy and digital competences to refugee (and/or migrant) learners whose education has been interrupted.

The ‘Social skills development and STEM orientation for a better life’ project (2020-1-HU01-KA201-078702) aims to create and implement a digital-based complex development programme with modules that build on each other. It also aims to offer methodology and training for teachers and special teachers in ISCED levels 1–3 to develop basic and digital skills in underprivileged children and children with SEN, who are more prone to early school leaving. Target groups for this project are in ISCED levels 1–3 and include teachers, trainers, mentors and learners with SEN.



GLOSSARY

The glossary contains terms used in this paper and provides explanations of the terminology. It should be noted, however, that the cited literature may be based on other definitions, which could not be verified within the scope of the study. The definitions here relate to the terms used in the [Inclusive Digital Education](#) main report.

Accessibility

Article 9 of the United Nations Convention on the Rights of Persons with Disabilities defines accessibility as:

To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas (United Nations, 2006, p. 9).

Accessibility is a right to be ensured in all areas. These include education and the right to appropriate education and active citizenship through access to a flexible curriculum through personalised learning approaches ([European Agency, no date](#)).

Accessible

‘Able to be reached, entered or understood’ ([European Agency, no date](#)).

Artificial intelligence (AI)

The study of how to produce machines that have some of the qualities that the human mind has, such as the ability to understand language, recognize pictures, solve problems, and learn ([Cambridge Dictionary](#), no date).

Assistive technology (AT)

Equipment, devices, apparatuses, services, systems, processes and environmental modifications used by people with disabilities to overcome social, infrastructural and other barriers to learning independence, safe and easy participation in learning activities, and full participation in society ([UNESCO, 2020](#), p. 419).

Augmented reality (AR)

An enhanced version of reality created by the use of technology to overlay digital information on an image of something being viewed through a device (such as a smartphone camera) ([Merriam-Webster Dictionary](#), no date).



Blended learning

Blended learning in formal education and training involves 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);
- 🌐 blending different learning tools that can be digital (including online learning) and nondigital.

Using their professional pedagogical judgement, teachers, trainers and schools will select and facilitate the use of these approaches as part of engaging and effective learning tasks that support broad competence development, as appropriate to the age, abilities and circumstances of the learners and intended learning outcomes. Other physical environments may include, for example, on the one hand: the home; hospitals (in the case of sick or injured children); and on the other hand cultural and memory institutions; farms, companies and other workplaces; nature sites and outdoors; sports and youth spaces' ([Council of the European Union, 2021](#), p. 12).

Bring your own device (BYOD)

The practice of companies or schools saying that employees or students can bring their own computers, phones, etc. to work or school in order to do their work on them ([Cambridge Dictionary](#), no date).

Collaborative learning

Opposed to individual learning, collaborative learning develops a community-centred approach. It is a recent trend in human learning and cognition that emphasises participation, joint meaning-making, discourse and dialogue. It is characterised by collaboration, creative processes and the use of new technology ([European Agency](#), no date).

COVID-19

An infectious disease caused by a coronavirus (= a type of virus), that usually causes fever, tiredness, a cough, and changes to the senses of smell and taste, and can lead to breathing problem[s] and severe illness in some people ([Cambridge Dictionary](#), no date).



Digital

(as in digital content, digital devices, digital resources, digital technology) – essentially, another word for computers and computer technology. (Computers store and process information by converting it all to single-figure numbers – digits.) ([UNESCO and Microsoft, 2011](#), p. 90).

Digital divide

Digital divide refers to ‘the gap between those who can benefit from digital technology and those who cannot’ (Digital Divide Institute, cited in [UNESCO IITE and European Agency, 2011](#), p. 101).

Digital education

‘Digital education is the innovative use of digital tools and technologies during teaching and learning’. It ‘is often referred to as Technology Enhanced Learning (TEL) or e-Learning’ ([The University of Edinburgh](#), 2018).

Digital literacy

Digital literacy is about basic computer skills, such as being able to do word-processing or go online. It refers to:

... the skills required to achieve digital competence. It is underpinned by basic skills in ICT and the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet (European Commission, 2008, p. 4).

Digitalisation

‘... the way in which many domains of social life are restructured around digital communication and media infrastructures’ ([Brennen & Kreiss, 2016](#), p. 556).

Digitisation

Digitisation refers to ‘the action or process of digitising; the conversion of analogue data (esp. in later use images, video, and text) into digital form’ ([Oxford English Dictionary](#), no date).

Distance education

See ‘[Distance learning](#)’.

Distance learning/remote learning

Distance learning is defined as learning taking place with the teacher/trainer being separated from the learner by space and/or time, taking into account national circumstances ([Council of the European Union, 2021](#), p. 12).



E-learning

e-learning is about ‘any forms of electronically supported learning and teaching’ ([UNESCO IITE and European Agency, 2011](#), p. 101).

Emerging technology

‘Emerging technologies are tools, concepts, innovations, and advancements utilized in diverse educational settings to serve varied education-related purposes’ They are ‘potentially disruptive, not yet fully understood, and not yet fully researched’ (International Council for Open and Distance Education, 2010).

Formal education

Formal education is defined as education that is institutionalized, intentional, planned through public organizations and recognized private bodies and, in their totality, make up the formal education system of a country. Formal education programmes are thus recognized as such by the relevant national educational authorities or equivalent, e.g. any other institution in co-operation with the national or sub-national educational authorities. Formal education consists mostly of initial education. Vocational education, special needs education and some parts of adult education are often recognized as being part of the formal education system. Qualifications from formal education are by definition recognized and are therefore within the scope of ISCED [International Standard Classification of Education]. Institutionalized education occurs when an organisation provides structured educational arrangements, such as student-teacher relationships and/or interactions, that are specially designed for education and learning (UNESCO, 2011, p. 8, cited by [European Agency, 2016](#), pp. 24–25).

Gamification

‘The practice of making activities more like games in order to make them more interesting or enjoyable’ ([Cambridge Dictionary](#), no date).

Inclusion

Inclusion is both a principle and a process: ‘Inclusion and equity in and through education is the cornerstone of a transformative education agenda [...] No education target should be considered met unless met by all’ ([World Education Forum, 2015](#), p. 2).

It can be seen as:

A process consisting of actions and practices that embrace diversity and build a sense of belonging, rooted in the belief that every person has value and potential and should be respected ([UNESCO, 2020](#), p. 419).



The term was often associated with disability, but now extends to wider groups as:

... a response to increasingly complex and diverse societies. It treats diversity as an asset which helps prepare individuals for life and active citizenship in increasingly complex, demanding, multi-cultural and integrated societies ([Soriano, Watkins & Ebersold, 2017](#), p. 7).

Informal education

Informal education refers to a lifelong learning process, whereby each individual acquires attitudes, values, skills and knowledge from the educational influences and resources in his or her own environment and from daily experience. People learn from family and neighbours, in the market place, at the library, at art exhibitions, at work and through playing, reading and sports activities. The mass media are a very important medium for informal education, for instance through plays and film, music and songs, televised debates and documentaries. Learning in this way is often unplanned and unstructured ([Council of Europe, 2022](#)).

Information and communication technology (ICT)

ICT 'covers all technical means used to handle information and aid communication. This includes both computer and network hardware, as well as their software' ([Eurostat, 2016](#)).

Learning platform

A learning platform is an integrated set of interactive online services that provide teachers, learners, parents and others involved in education with information, tools and resources to support and enhance educational delivery and management. It is not a single 'off the shelf' product but a collection of tools and services designed to support teaching, learning, management and administration (Jewitt, Hadjithoma-Garstka, Clark, Banaji & Selwyn, 2010, p. 4).

Massive open online course (MOOC)

'A course of study that is made available over the internet and that can be followed by a large number of people' ([Cambridge Dictionary](#), no date).

Non-formal education

Non-formal education refers to planned, structured programmes and processes of personal and social education for young people designed to improve a range of skills and competences, outside the formal educational curriculum. Non-formal education is what happens in places such as youth organisations, sports clubs and drama and community groups where young people meet, for example, to undertake projects together, play games, discuss, go camping, or make music and drama. Non-formal education



achievements are usually difficult to certify, even if their social recognition is increasing. Non-formal education should also be:

- 🎯 voluntary
- 🎯 accessible to everyone (ideally)
- 🎯 an organised process with educational objectives
- 🎯 participatory
- 🎯 learner-centred
- 🎯 about learning life skills and preparing for active citizenship
- 🎯 based on involving both individual and group learning with a collective approach
- 🎯 holistic and process-oriented
- 🎯 based on experience and action
- 🎯 organised on the basis of the needs of the participants.

Formal, non-formal and informal education are complementary and mutually reinforcing elements of a lifelong learning process ([Council of Europe, 2022](#)).

Online learning

Online learning is defined as learning that takes place using digital technology to connect different devices and to facilitate interaction between the learner and teachers, trainers or other educational staff, or other learners, aimed at obtaining learning content or other information to achieve the objectives of learning programmes ([Council of the European Union, 2021](#), p. 12).

Open-access

‘Available for everyone to use’ ([Cambridge Dictionary](#), no date).

Open educational resource (OER)

Open Educational Resources (OER) are teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. OER form part of ‘Open Solutions’, alongside Free and Open Source software (FOSS), Open Access (OA), Open Data (OD) and crowdsourcing platforms ([UNESCO, 2021](#)).



Open-source

‘Open-source software is free to use, and the original program can be changed by anyone’ ([Cambridge Dictionary](#), no date).

Remote learning

See ‘[Distance learning](#)’.

Resilience/organisational resilience

It is the ability of an organization to anticipate, prepare, respond, and adapt to exponential change and sudden interruptions to survive and thrive. It goes beyond risk management, towards a more holistic vision of health and business success ([Vargas-Hernández, Barrios-Vargas & Mercado-Torres, 2019](#), p. 46).

Robotics

‘The science of making and using robots (= machines controlled by computers that are used to perform jobs automatically)’ ([Cambridge Dictionary](#), no date).

Self-assessment

‘A judgment, sometimes for official purposes, that you make about your abilities, qualities, or actions’ ([Cambridge Dictionary](#), no date).

Social media

‘Forms of media that allow people to communicate and share information using the internet or mobile phones’ ([Cambridge Dictionary](#), no date).

Software

‘The instructions that control what a computer does; computer programs’ ([Cambridge Dictionary](#), no date).

Special educational needs (SEN)

SEN is a construct that countries usually define within their legislation. These definitions are then used to identify, assess and make provision for learners with different needs – including recognised disabilities – in different ways (Watkins, Ebersold & Lénárt, 2014). Special or ‘additional’ needs should not be seen as the result of ‘in-child’ factors, but rather ‘a discrepancy between what a system of schooling ordinarily provides and what the child needs to support their learning’ (Rouse, 2008, p. 6, cited by [Soriano, Watkins and Ebersold, 2017](#), p. 22).

Teachers’ self-efficacy

‘Perceived self-efficacy refers to people's beliefs about their capabilities to exercise control over their own activities’ ([Cambridge Dictionary](#), no date).



Technology

Technology is:

... often used as another word for ICT, although strictly speaking ‘technology’ can mean almost any type of tool or applied knowledge. For example, pencil and paper, slates, blackboards and whiteboards are all types of writing technology ([UNESCO and Microsoft, 2011](#), p. 92).

Telepresence

‘The use of various technologies to create the effect of being at a different or imaginary place, or to operate equipment from a different place’ ([Cambridge Dictionary](#), no date).

User interface

Software that is designed to allow a computer user to interact with the operating system of a machine or system (such as by selecting presented options or entering text commands) ([Merriam-Webster Dictionary](#), no date).

Virtual reality (VR)

Virtual reality (VR) provides a computer-generated 3D environment (including both computer graphics and 360-degree video) that surrounds a user and responds to an individual’s actions in a natural way, usually through immersive head-mounted displays. Gesture recognition or handheld controllers provide hand and body tracking, and haptic (or touch-sensitive) feedback may be incorporated. Room-based systems provide a 3D experience while moving around large areas, or they can be used with multiple participants ([Gartner Information Technology Glossary](#), 2022).

Web-based learning

Web-based learning refers to the type of learning that uses the Internet as an instructional delivery tool to carry out various learning activities. It can take the form of (1) a pure online learning in which the curriculum and learning are implemented online without face-to-face meeting between the instructor and the students, or (2) a hybrid in which the instructor meets the students half of the time online and half of the time in the classroom, depending on the needs and requirement of the curriculum. Web-based learning can be integrated into a curriculum that turns into a full-blown course or as a supplement to traditional courses ([Zheng, 2008](#)).



REFERENCES TO ERASMUS+ PROJECTS

Contrary to the usual rules of citation, this section refrains from direct links to the results of the research. Instead, it uses a different type of referencing that is likely to be valid in the longer term. The list of referenced projects is sorted according to the unique project identifiers, followed by the project title and the action type in brackets. The project identifier can be used in the [Erasmus+ project database](#) to identify the project and read the available project information.

2016-1-DE03-KA219-023045 – Jobortunities - Making Work for Young People Work!
[Strategic Partnerships for Schools Only]

2016-1-EL01-KA201-023731 – Empowering spatial thinking of students with visual impairment [Strategic Partnerships for school education]

2016-1-FR01-KA203-024269 – SUCCESS4ALL project: E-course on Entrepreneurship Skill - an inclusive education approach [Strategic Partnerships for higher education]

2016-1-HR01-KA201-022147 – Tackling School Discipline Issues with Positive Behavior Support [Strategic Partnerships for school education]

2016-1-IT01-KA202-005354 – INnovative TEaching Method for an Inclusive School [Strategic Partnerships for vocational education and training]

2016-1-IT02-KA219-024220 – PersOnalized teaChing: the Key to success in EducaTion - Tools [Strategic Partnerships for Schools Only]

2016-1-IT02-KA219-024650 – Think... act....and make a better world [Strategic Partnerships for Schools Only]

2016-1-PL01-KA204-026768 – Inclusive Leadership – nowe podejście do wzmacniania i rozwoju osób ze środowisk defawozryzowanych [Strategic Partnerships for adult education]

2016-1-TR01-KA201-034660 – Designing Curriculum for Pre-school Teachers Who Work in Inclusive Classroom Settings [Strategic Partnerships for school education]

2016-1-UK01-KA202-024542 – Learn To Engage - a modular course for botanic gardens [Strategic Partnerships for vocational education and training]

2016-3-DK01-KA205-033887 – Entrepreneurship Education for Cultural Tourism [Strategic Partnerships for youth]

2017-1-BG01-KA201-036270 – Tolerance - Education - Responsibility - Respect - Act - Vitality - Inclusion -Talent - Ability [Strategic Partnerships for school education]

2017-1-FR01-KA202-037486 – SENSENET - Social Enterprises Sustainability Network [Strategic Partnerships for vocational education and training]

2017-1-IT02-KA201-036605 – Designing for Personalization and Inclusion with Technologies [Strategic Partnerships for school education]

2017-1-IT02-KA201-036610 – Qualification for Minor Migrants Education and Learning Open access - On line Teacher-training [Strategic Partnerships for school education]



- 2017-1-IT02-KA204-036811 – D.I.S.I. - Digital Innovation for Social Inclusion [Strategic Partnerships for adult education]
- 2017-1-LV01-KA201-035433 – Inclusive preschool by digital VAK [Strategic Partnerships for school education]
- 2017-1-PL01-KA204-038325 – Golden Links - bringing inclusion into multicultural teaching [Strategic Partnerships for adult education]
- 2017-2-PL01-KA205-039021 – 3D LAB: Making with brain, technology and hands [Strategic Partnerships for youth]
- 2017-3-FR02-KA205-013673 – Street Food Opportunités pour la jeunesse [Strategic Partnerships for youth]
- 2018-1-BE02-KA201-046853 – A is for App; Reading Fluency Apps for Struggling Readers in Primary School [Strategic Partnerships for school education]
- 2018-1-BE02-KA204-046848 – Promote Open Source Technologies in non-formal Adult Education [Strategic Partnerships for adult education]
- 2018-1-FR01-KA201-048131 – Artificial intelligence to improve the employability and empowerment of young Europeans [Strategic Partnerships for school education]
- 2018-1-HR01-KA204-047430 – Cultural knowledge and language competences as a means to develop the 21st century skills [Strategic Partnerships for adult education]
- 2018-1-IT02-KA201-048186 – Digital skilled Teachers Acting for Higher and Inclusive Education [Strategic Partnerships for school education]
- 2018-1-RO01-KA201-049411 – Future schools using the power of Virtual and Augmented Reality for education and training in the classroom [Strategic Partnerships for school education]
- 2018-1-TR01-KA204-058746 – Level Up - Digital Skills for Adults with Blue-collar Occupations [Strategic Partnerships for adult education]
- 2018-1-UK01-KA203-048195 – Comics for Inclusive English Language Learning [Strategic Partnerships for higher education]
- 2019-1-BG01-KA201-062321 – #ShareEurope: Sharing interactive education in virtual and mixed reality [Strategic Partnerships for school education]
- 2019-1-DE02-KA202-006246 – Inclusive Leadership in the Digital Age [Strategic Partnerships for vocational education and training]
- 2019-1-ES01-KA229-063826 – Hum@n Networks for the Cooperation - A new inclusive methodology by virtual environments [School Exchange Partnerships]
- 2019-1-FI01-KA201-060881 – Blended Learning for Inclusion [Strategic Partnerships for school education]
- 2019-1-IT02-KA201-063086 – Inclusive Childhood education supported by multimedia and Digital storytelling [Strategic Partnerships for school education]
- 2019-1-IT02-KA203-063228 – Enhancing University Language courses with an App powered by game-based Learning and tangible user Interfaces Activities [Strategic Partnerships for higher education]



2019-1-MT01-KA201-051267 – Extending teachers' competences in the effective teaching of literacy, numeracy and digital skills to refugee children [Strategic Partnerships for school education]

2019-1-PL01-KA201-065079 – Academy of Special Educational Needs [Strategic Partnerships for school education]

2019-1-PL01-KA203-065062 – Technologically enhanced online opportunities for language learning in inclusive education [Strategic Partnerships for higher education]

2019-1-PL01-KA204-065657 – BYOD as educational method leading to improve employability of adults with intellectual disability [Strategic Partnerships for adult education]

2019-1-PL01-KA204-065676 – Digital Storytelling Tools for Adult Educators [Strategic Partnerships for adult education]

2019-1-PT01-KA201-060762 – Inclusive and innovative STE(A)M education for students with special education needs [Strategic Partnerships for school education]

2019-1-PT01-KA203-060683 – Teachers Competencies for Social Inclusion of Migrants and Refugees in Early Childhood Education [Strategic Partnerships for higher education]

2019-1-RO01-KA201-063169 – Science Connect [Strategic Partnerships for school education]

2019-1-RO01-KA202-063245 – Towards a Multisensory and Inclusive Museum for Individuals with Sensory Disabilities [Strategic Partnerships for vocational education and training]

2019-1-RO01-KA204-063136 – JIMINY - Journey to Increase your techniques of emotional Intelligence, digital awareness and entrepreneurship lifestyle (sic) [Strategic Partnerships for adult education]

2019-1-SI01-KA204-060426 – Dis-entrepreneurship (sic) community support centres: an innovative outreach programme to equip adults with disabilities with key competences (social entrepreneurial and digital) [Strategic Partnerships for adult education]

2019-1-UK01-KA229-061773 – Taking a learning journey on the STEAM train [School Exchange Partnerships]

2019-3-SK02-KA205-002367 – Dissemination of innovative education through storytelling using modern non-formal education [Strategic Partnerships for youth]

2020-1-AT01-KA226-HE-092503 – Interdisciplinary Resilience through Science and Cultural Heritage Education Network [Partnerships for Digital Education Readiness]

2020-1-AT01-KA226-HE-092660 – electronic Toolkit for eAccessibility in Higher Education Remote Settings [Partnerships for Digital Education Readiness]

2020-1-AT01-KA226-HE-092663 – Digital inclusion [Partnerships for Digital Education Readiness]

2020-1-AT01-KA226-SCH-092523 – Digitalisation and inclusive education: Leaving no one behind in the digital era [Partnerships for Digital Education Readiness]

2020-1-AT01-KA226-SCH-092650 – Strengthening digital readiness giving voice to ALL pupils [Partnerships for Digital Education Readiness]



2020-1-BE01-KA226-HE-082744 – Inclusive Digital Education Access [Partnerships for Digital Education Readiness]

2020-1-BE02-KA201-074810 – Skills & Knowledge on Assistive Technology in Early childhood inclusive education [Strategic Partnerships for school education]

2020-1-BG01-KA226-SCH-094958 – Teacher Resilience [Partnerships for Digital Education Readiness]

2020-1-BG01-KA226-SCH-095199 – Innovative methods, approaches and practices for effective teaching STEM in an electronic environment [Partnerships for Digital Education Readiness]

2020-1-BG01-KA226-VET-095173 – Innovative Keys for Social Entrepreneurship: Piloting for VET Providers Readiness Innovative practices in a digital era [Partnerships for Digital Education Readiness]

2020-1-BG01-KA227-ADU-094973 – Music Virtual Academy: empowering performers through OERs for the digital transformation [Partnerships for Creativity]

2020-1-BG01-KA229-079264 – Inclusive Education and Distance Learning in Digital Era [School Exchange Partnerships]

2020-1-CY01-KA226-SCH-082707 – Virtual Reality-based Training to improve digital Competences of teachers [Partnerships for Digital Education Readiness]

2020-1-CZ01-KA226-VET-094346 – Digital Technologies for Lecturing and Learning [Partnerships for Digital Education Readiness]

2020-1-CZ01-KA226-VET-094374 – International Cooperation of Vocational Schools with Practical Training in the Context of Digital Education [Partnerships for Digital Education Readiness]

2020-1-DE01-KA203-005733 – Inclusive Peer Learning with Augmented Reality Apps [Strategic Partnerships for higher education]

2020-1-DE02-KA202-007478 – Empowering Digital Teachers in a changing world [Strategic Partnerships for vocational education and training]

2020-1-DE02-KA226-VET-007926 – Creation of a Collaborative Environment in e-classrooms [Partnerships for Digital Education Readiness]

2020-1-DE02-KA226-VET-008016 – Smart Training Education Platform (STEP 3) - 30 Training Modules [Partnerships for Digital Education Readiness]

2020-1-DK01-KA201-075142 – Telepresence experience network - information on children's learning [Strategic Partnerships for school education]

2020-1-EE01-KA202-077960 – Flexible Tailored Learning Pathway for Everyone [Strategic Partnerships for vocational education and training]

2020-1-EE01-KA226-SCH-093387 – Digi-Science: Developing innovative practices in a digital era for the teaching of Natural Sciences [Partnerships for Digital Education Readiness]

2020-1-ES01-KA201-081827 – Writing for Inclusion [Strategic Partnerships for school education]



2020-1-ES01-KA201-082122 – Digital Inclusion: Transforming and Internationalizing Schools through Technology [Strategic Partnerships for school education]

2020-1-ES01-KA201-083177 – Interactive Digital Content Platform for All [Strategic Partnerships for school education]

2020-1-ES01-KA204-083272 – Lifelong education of people with Down syndrome or other intellectual disabilities: Innovation and inclusion in rural areas [Strategic Partnerships for adult education]

2020-1-ES01-KA226-HE-095035 – Pan-EU network of digital education passport centres in higher education [Partnerships for Digital Education Readiness]

2020-1-ES01-KA226-HE-095430 – HistoryLab for European Civic Engagement: open e-Toolkit to train History Teachers on Digital Teaching and Learning [Partnerships for Digital Education Readiness]

2020-1-ES01-KA226-SCH-096121 – Inclusive digital Education for Students and Families with fewer opportunities [Partnerships for Digital Education Readiness]

2020-1-FI01-KA226-VET-092624 – Together towards genuine digital teaching and learning [Partnerships for Digital Education Readiness]

2020-1-FR01-KA201-080130 – Open up: engaging formal and non-formal education professionals in the inclusion of children and teenagers with sensory disorders [Strategic Partnerships for school education]

2020-1-FR01-KA203-080184 – Advanced Virtual and Augmented Reality Toolkit for Learning [Strategic Partnerships for higher education]

2020-1-FR01-KA226-HE-095526 – Digital pedagogy to develop Autonomy, mediate and certify Lifewide and Lifelong Language Learning for (European) Universities [Partnerships for Digital Education Readiness]

2020-1-FR02-KA227-YOU-018677 – AccessibleEU - For an accessible, digital and inclusive Europe of citizens [Partnerships for Creativity]

2020-1-HR01-KA226-VET-094781 – Training 4 Skills in Virtual Environment (T4SVEN) [Partnerships for Digital Education Readiness]

2020-1-HU01-KA201-078702 – Social skills development and STEM orientation for a better life [Strategic Partnerships for school education]

2020-1-HU01-KA226-SCH-094158 – Marketplace of Knowledge for Digital Education Methodology [Partnerships for Digital Education Readiness]

2020-1-IS01-KA226-VET-082813 – Artificial intelligence for everybody – stronger with AI [Partnerships for Digital Education Readiness]

2020-1-IT02-KA203-080006 – VRAILEXIA- Partnering Outside the Box: Digital and Artificial Intelligence Integrated Tools to Support Higher Education Students with Dyslexia [Strategic Partnerships for higher education]

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