

REIMAGINING EDUCATION FOR THE DIGITAL AGE

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Lifelong Learning Platform
"Reimagining education for the digital age"
Position Paper - September 2017

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REIMAGINING EDUCATION FOR THE DIGITAL AGE

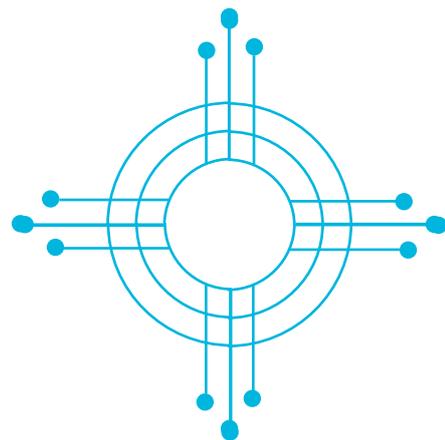
The impact of the digital era in the world of education is yet to become profound. The Lifelong Learning Platform policy paper aims to raise awareness about the impact of digital technologies in education as well as challenges faced and opportunities offered by the effects the digital age has on the lives and realities of all, including those not directly using technology. More particularly, we strive to direct the attention of decision makers and citizens towards the many implications of the digital age which are yet to be discovered.

The Lifelong Learning Platform promotes a holistic vision of lifelong learning, from cradle to grave, that is not limited to formal education but integrates non-formal and informal learning. The main goal of the platform is that no one is left out and that bridges are built across sectors to increase access to quality learning for all, throughout one's life cycle. To achieve such a goal, numerous societal developments need to be taken into consideration so that all relevant stakeholders are able to respond in a timely and appropriate manner.

We acknowledge the influence of the digital era on education systems and learning processes in this policy paper. Therefore, we would like to inform the public with the help of our key policy recommendations and messages, summarising the main opportunities and challenges of digital technologies as well as indirect effects of the digital age's reality in the field of education.

We believe genuine change and innovation in education can only happen at the meso-level (school and community level) and, therefore, an additional focus of the paper is the fast-track changes in education often pushed for by the industry and/or labour market demands through a top-down approach. We also believe that the necessary changes, especially the paradigm shift we need to see from traditional teacher-student settings to mutual learning and guidance settings, are easiest to realize if community cooperation also focuses on collaboration between different types of learning providers, as the methodology shift can easily happen if formal education settings incorporate the decades of experience of non-formal and informal settings. Digital developments have the potential to either facilitate or hinder this process.

Overall, the policy paper aims to stimulate a reimagining of education – to prepare for upcoming challenges in education by 2020 and beyond; where learners shall be able to interact remotely, where the success of technology shall still rely on skilled teachers and educators, where diplomas shall have a different definition, where learners shall have a voice, and educators and institutions shall need to adapt, based on comprehensive cost-benefit analyses and the real needs of our societies' learners.



POLICY MESSAGES AND RECOMMENDATIONS

The Lifelong Learning Platform believes that bringing together the potential of a holistic lifelong learning vision and the innovation that digital technology can bring about, when used efficiently and responsibly, holds the key to unlocking enormous human capacity and making sure people are placed in the driving seat of their personal and professional lives in the ever-changing and ever-uncertain world. The LLLP would like to highlight below its recommendations on the topic of Education in a Digital Era, based on both evidence gathered from the ground by the LLLP membership and evidence gathered from existing research, aiming to link the golden triangle of policy, practice and research and ensure efficient delivery of “digital strategies” in lifelong learning.

It's not digital technology that creates social change, people do!

Investment in people and widening access to lifelong learning opportunities is as important as investment in digital technology. That is why they have to closely follow each other. Digital technology can support and enhance people's learning, and, equally important, the other way around, opportunities for learning throughout life empower people in using digital technology effectively and in a responsible manner and in fully capitalising on their “digital experience”.

It's not digital technology that creates changes in education, a methodology shift does!

The success of non-formal and informal education providers, often offering an acceptable and useful alternative to early school leavers, as well as the growing pressure on formal education setting to change by the setting up of alternative schools and the spreading of home-schooling/unschooling movements clearly show that it is the time when different education sectors must start working together. It is especially important to find the role of successful alternative providers in supporting the necessary change in formal education that should remain a basic service for the whole of society.

Mutually reinforcing effects of pedagogical and technological innovation

The so-called digital revolution is increasingly questioning the traditional educational concepts. Learners need to be guided towards innovative practices of knowledge creation for genuine educational transformation to happen, which includes better links between formal, non-formal and informal learning at the meso-level. Indeed, building innovative learning ecosystems is a powerful way to support tackling various ever-complex issues linked to building more sustainable societies and economies.

Digital technology is carefully integrated, and not “dumped” onto learners

To effectively integrate digital technology into our education systems better and stronger cooperation of all stakeholders is a prerequisite, ensuring convergence, synergies and a cross-disciplinary expertise. A collaborative and shared leadership is necessary reflecting learners' needs and transforming school culture in partnership with local communities and local actors.

Turning words into action - investing in teachers as transformers and awakers

The role of teachers and educators has evolved and will continue evolving in the digital age. While we acknowledge the opportunities brought about by digital technology in supporting the crucial work done by teachers and educators, we call on decision-makers for improved support to teachers and educators in implementation of digital technology in learning environments, by investing in their initial and continuous professional development and their own digital skills and competences.

Launching assessment methods into the transformative whirlwind

There is a clear need to reassess assessment methods in such a digital revolution. The LLLP strongly encourages shifting the balance towards assessment methods that allow an increasing flexibility, creativity and innovation. Standardised tests are not suitable for exploiting the full potential of learners in the digital age. Therefore, a variety of different assessment methods, and in particular formative assessment, **should be**



further explored and also combined with other electronic assessment methods.

Technology as empowerment tool for the already empowered?

Mainstreaming digital access in education does not necessarily imply equal access to learning opportunities. Although technologies are becoming increasingly affordable, the acquisition of basic digital skills remains a barrier and the digital divide persists. Only a comprehensive approach shall reduce inequalities, which involves firstly tackling barriers, and secondly, enabling opportunities. The LLLP calls for an equal investment in digital competence, motivation and attitude acquisition, as key enablers to translating the world of information into the world of knowledge.

Digital divide gap ...as long as there is the basic skills gap!

More complex, higher-order competences necessary for the efficient use of digital technology are rooted themselves in basic skills. Learners will never be on an equal footing to acquire digital skills as long as there are such large gaps in basic skills levels, particularly affecting disadvantaged groups and a high number of adults. This puts a further pressure on the lifelong learning dimension of formal education structures and beyond, which is why the LLLP calls for a holistic approach to digital strategies serving the development of basic skills as a cornerstone for social cohesion.

Neutralising digital space and commercialisation of education

The commercialisation of education is increasingly becoming a reality. In this changing context, the LLLP calls for ensuring the pedagogical freedom of teachers and educators, as well as careful consideration of data security and privacy concerns. Some possible ways to balance out the digital space and ensure fairer outcomes for all would be to incentivise free digital resources and the interoperability of hardware and software.

Digital technology for whom? Needs and concerns of people first

Digital technologies are used more and more as a device to bring education provision closer to the

needs of the economy. This is an alarming trend we observe at all levels, where technology is serving the economisation of costs, turning learners into consumers and increasing competitiveness, creating an environment where learning and skills development are not in a position to address genuine learner needs. The LLLP would like to recall that a learner-centred approach is a prerequisite for empowering learning processes to take place.

Holistic and humanistic vision of education in the face of growing private interest interventions

While the LLLP welcomes the development of digital skills strategies and coalitions at the national level, the Digital Skills and Jobs Coalition set up by the European Commission has some flaws. The LLLP recalls that overrepresentation of private interests over public ones, such as companies, banks and the industry, invited to up-skill workers, making sure they “remain productive” and build curricula, hinders the long-term vision of the full potential that digital technologies can have in education as well as society.

Safe navigation through digital waters

The LLLP stresses the importance of ensuring safety standards and accompanying measures for the groups most prone to risks and side effects associated with digital technologies, such as young minors and disadvantaged adults. Strengthened partnerships between parents, guardians, teachers, health professionals and educators are crucial in this regard and should be encouraged at all levels.

Cross-disciplinary research and the unknown

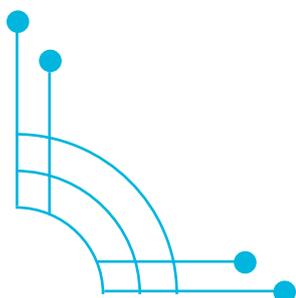
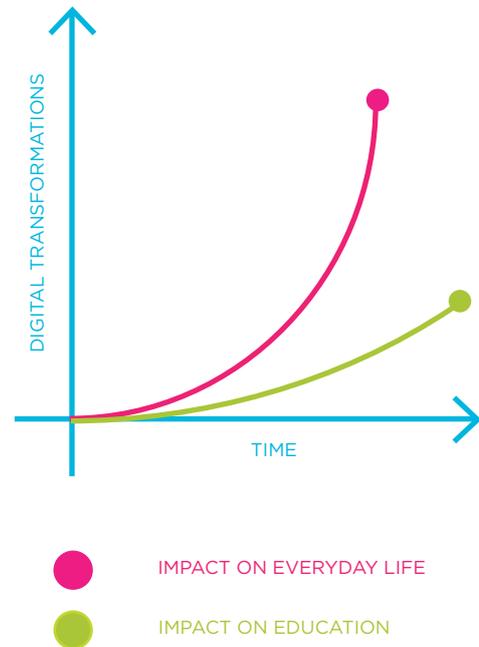
The LLLP calls for investment in unbiased, cross-disciplinary longitudinal research on different aspects of digital technologies in education, interlinking educational sciences, pedagogy, psychology, sociology, neuroscience, engineering and computer sciences, to further explore how the minds of children and adults are being developed and are developing in the digital world, to maximise benefits of the use of digital technology in education and minimise its risks.

KNOCK, KNOCK DIGITAL REVOLUTION IS HERE!



The so-called **digital revolution has penetrated many aspects of society and economy and profoundly transformed our lives.** Even though there is a slow increase in the use of digital technologies and related methodologies and the ways they are applied in education as well, the impact of digitalisation is yet to have a truly **transformational effect on education**, which can be rather slow to respond to the trends in technology, for valid or less valid reasons. That is why there is space to imagine and reimagine how we see the position of education systems in the digital era (their formal, non-formal and informal components), and how to unlock the enormous potential of blending the humanistic and holistic vision of education with the innovative approaches that digitalisation can bring about.

The advocates for the use of technology in education emphasise its potential to enhance one's life chances and contribute to **upward mobility**, an increased **social capital**^{1, 2}, shape **citizens better informed** of current events and political choices^{3, 4}, and **civic engagement**^{5, 6}, as well as increased **labour market integration** and **income effects**⁷. Learning with digital technologies is often rendered **more equitable** than learning without them. This is due to the strong possibilities of **democratising knowledge and access to it** through more personalised learning processes, and therefore of enhancing learning experiences and outcomes. For instance, by getting online it is possible to access information without the socio-economic barriers that existed before. What is more, the widened access to digital technology in libraries, community centres and other public spaces has helped reduce the barriers. However, **this is only one side of the coin**, as digital technology can, from another perspective, enhance the digital divide and existing inequalities as well, as will be explained further on in the paper.



1. Best, S. J., & Krueger, B. S. (2006). Online interactions and social capital: Distinguishing between new and existing ties. *Social Science Computer Review*, 24(4)
2. Katz, J. E., & Rice, R. E. (2002). *Social consequences of Internet use: Access, involvement and interaction*. Cambridge, MA: MIT Press.
3. Tewksbury D., Weaver A. J., Maddex B. D. (2001). Accidentally informed: Incidental news exposure on the World Wide Web. *Journalism & Mass Communication Quarterly*
4. Marr, Mirko. 2005. Internetzugang und politische Informiertheit. Zur digitalen Spaltung der Gesellschaft. Konstanz.
5. Wellman, B., Quan y Haase, A., Witte, J., & Hampton, K. (2001). Does the Internet increase, decrease, or supplement social capital? Social networks, participation, and community commitment. *American Behavioral Scientist*, 45 (3)
6. Mossberger K., Tolbert, C.J. and McNeal R.S. (2007). *Digital Citizenship: The Internet, Society and Participation*. MIT Press eBooks.
7. DiMaggio B., Bonikowski B. (2008) Make Money Surfing the Web? The Impact of Internet Use on the Earnings of U.S. Workers, *American Sociological Review*, Vol. 73 (April:227-250)

DIGITA-LLL



Importantly, the impact of digitalisation lies in the potential of **accessible, social and personalised technologies** that can bring about more **inclusive learning paths and a learning continuum between formal, non-formal and informal learning**. Learning is becoming increasingly ubiquitous in time and place, and the lines between traditionally divided tools such as audios, videos, textbooks, games and others are blurred⁸. Learning now happens across multiple media. Digital solutions can feed into lifelong learning strategies and can be a powerful tool for **narrowing the achievement and opportunity gaps**. Also, “lifelong learning holds the key to a successful societal response to the likely disruption caused by digitization in the workplace and in society more widely”⁹. However, all this heavily depends on **how digital technology is introduced and used in learning environments**.

To achieve enhanced learning experiences and outcomes of learning, the **system needs to conform to the needs of learners, and not the other way around**¹⁰. **The place of the learner is at the centre**, in regulating their own learning, training and upskilling by themselves. This is the way to ensure that learners do not end up as passive technology consumers through their experience, but **active, digital citizens** instead, able to capitalise on their experiences, through **“constructing and reconstructing the nature, place, pace and timing of the learning event”**¹¹ and creating and organising knowledge in various forms of digital content in accordance with their views and values. Such approaches highlight the importance of both the individual and collaborative engagement of learners in their learning processes – sharing goals, tasks and knowledge within a team, applying self-reflection and review between peers, all central to knowledge creation. **It is not digital technology that creates social change, people do!** Therefore, future investment in technologies has to be accompanied by investment in people and widening their access to lifelong learning opportunities.

Project!

Youth for Exchange and Understanding (YEU) recently presented The WYRED - netWorked Youth Research for Empowerment in Digital Society - where the consortium aims to engage children and young people in decision-making on digital issues.

INNOVATION IN TECHNOLOGY ≠ INNOVATION IN PEDAGOGY



Digital technologies are **radically changing the ways we learn, but they have been embraced to only a limited extent**. The prerequisite for education systems to open up societies to innovation would be that **they are themselves innovative**. One of the possible means to narrow or eliminate gaps between innovation in technology and pedagogy is also to **better link formal and informal learning structures** instead of thinking of either/or. The creative potential that lies dormant in each human being is awakened as early on as early childhood settings with the provision of ample time and space for children to play, explore and have **natural sense experiences that stimulate imagination**. Alternative ways of thinking are important in all creative activities and **the ability to escape from the given culture and society is strongly related to imaginative play**¹².

Greater emphasis on knowledge creation is likely to generate further innovation in education and technology. There is no evidence that traditional learning styles or types exist in the sense that people can be divided, for instance, into “auditory”, “visual” or “kinesthetic” learners¹³. Traditional education concepts based on the **knowledge acquisition and the reproduction model** “where there is one classroom, one teacher, one class, and one subject at a time”, are **being increasingly questioned**¹⁴. Technology, which allows us to expand our **biological memory**¹⁵ and develop new learning practices, helps to **shape our use of it** and makes learning more and more **blended**¹⁶ or **hybrid**¹⁷. This requires reflection on how to ensure that learners are able to safely and efficiently find their way through the digital environment.

8. Livingstone, S., Haddon, L., Görzig, A., and Ólafsson (2011). EU Kids Online Final Report.

9. Costa, E., & Holden, R. (2017). Lifelong Learning: an European answer to digitization. EAPM Newsletter, pp. 17-18.

10. Green, S., Pearson, E., & Stockton, C. (2006). Personal Learning Environments: Accessibility and Adaptability in the Design of an Inclusive Learning Management System, AACE World Conference on Educational Multimedia (EDMEDIA).

11. Nunes M. (2006). Cyberspaces of Everyday Life. How network technologies produce social space.

12. Rainio, A.P. (2010). Lionhearts of the playword: An ethnographic case study of the development of agency in play pedagogy. University of Helsinki, Finland.

13. Pashler et al. (2008) Learning Styles: Concepts and Evidence. A Journal of the Association for Psychological Science. Volume 9, Number 3.

14. Kumpulainen K., Mikkola A. & Jaatinen A. (2013). The chronotopes of technology-mediated creative learning practices in an elementary school community. University of Helsinki, Finland.

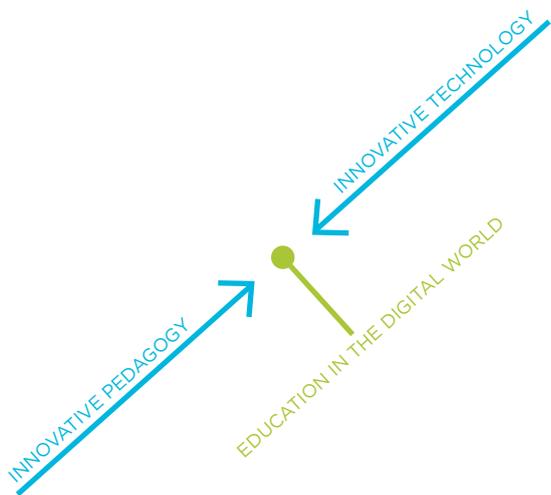
15. <https://www.scientificamerican.com/article/the-internet-has-become-the-external-hard-drive-for-our-memories/>

16. Bonk, C. J., & Graham, C. R. (Eds.). (2006). Handbook of blended learning: Global perspectives, local designs. San Francisco, CA: Pfeiffer Publishing.

17. Vernadakis et al. (2011) The effect of information literacy on physical education students' perception of a course management system. Media, learning and technology.

Undoubtedly, **learners need to be guided towards innovative practices of knowledge creation, through the merging of social, mental, physical, digital, virtual and mobile spaces of learning¹⁸, by learning how to learn**, as opposed to the outdated idea of knowledge acquisition and looking at the human brain as a “sponge”. **Inquiry-, game- and project-based learning, phenomenon-based learning, collaborative learning and flipped classroom learning, for example, all lead to more reflective and participatory learning processes.** Augmented reality, virtual reality and gamification, associated with other communication technologies such as quizzes, podcasts, apps and videos, among others, can present adaptive and personalised learning strategies and contribute to the **creation of innovative learning ecosystems¹⁹.**

Innovative education methodologies (enhanced through digital technologies) can equip citizens with life skills such as creative thinking, curiosity and problem-solving skills. They are increasingly necessary in all segments of life in the 21st century. There is no other way for education to contribute to tackling the various complex issues linked to building more sustainable societies and economies.



PRINCIPLES FOR EFFECTIVE DIGITAL TECHNOLOGY INTEGRATION



Educational institutions and local communities need to work in partnership, together with a variety of different actors and partners, to address the need for **convergence, synergies and a cross-disciplinary expertise²⁰**. The role of school leadership - being collaborative and shared, and thus reflecting the needs of learners - is equally relevant in promoting the modernisation of education, innovative educational practices for improved results, and ways of supporting school leaders need to be further explored. According to Niemi et al²¹, the efficient use of technology in schools relies on including it in **strategic planning and school culture, empowering, participatory teaching and learning methods, flexible curricula, dedicated leadership/management, as well as the strong capacity and commitment of teachers and other educators.**

School leaders need trainings, self-assessment frameworks and methodological support to turn their schools into dynamic learning spaces through **inclusive and reflective digital innovation on the organisational level**. Whole-school policies, structural changes in curricula and assessment and teaching practices require significant increase in the competences of school leaders regarding data driven decision-making, participatory action research and strategic planning in schools.

Project!

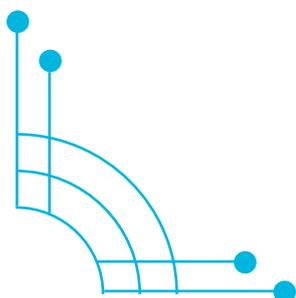
The project Blended Erasmus+ Staff Training (BEST+), by the European University Foundation, establishes a community platform for Higher Education professionals working on mobility. It gives them the opportunity to engage in mobility schemes themselves and simultaneously engage with colleagues through a blended online approach.

18. Lonka, K. (2012). Engaging Learning Environments for the Future. The 2012 Elizabeth W. Stone Lecture. In R. Gwyer, R. Stubbs, & Graham Walton (Eds.) The road to information literacy. Librarians as facilitators of learning. IFLA

19. (in general use) a complex network or interconnected system (Oxford English Dictionary)

20. CITED Center for Implementing Technology in Education (2016). Lessons Learned for Effective Technology Implementation

21. Niemi H. et al (2013). Towards ICT in everyday life in Finnish schools: seeking conditions for good practices



SUPPORTING TEACHERS, EDUCATORS AND TRAINERS FROM WORDS TO ACTION

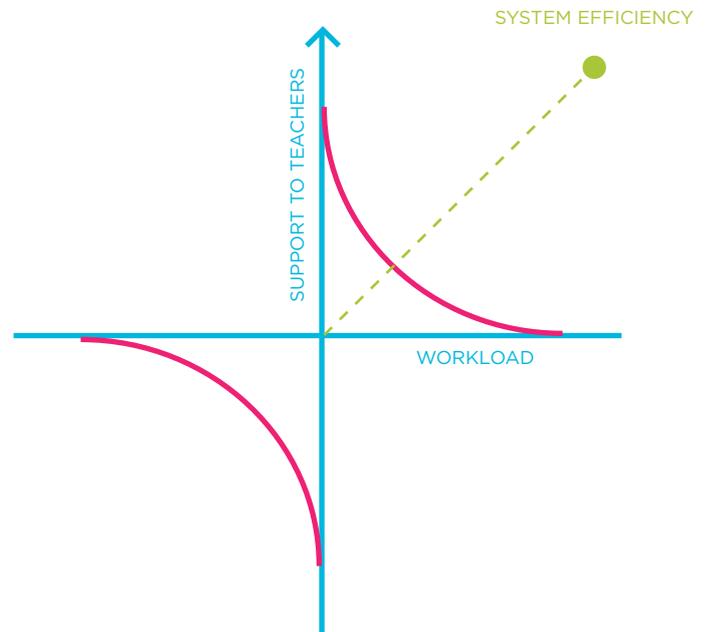


A firm majority of **86% of teachers believe that pupils are more motivated when computers/ the Internet are used** in classes and 80% see advantages in using digital technologies in school, in particular for exercises and practice²², although there is some skepticism when it comes to the use of digital technology in kindergartens²³. Indeed, when effectively applied, digital solutions can play an important role in **transforming and supporting teaching**, resulting in an increased engagement of learners and their improved results²⁴. It is essential to use a behavioural model in this area (e.g. TAM²⁵) and training models that include the teacher and educator follow-up on the process of adoption of technology (e.g. MoBiForm²⁶), and not just “dumping” content.

The potential is clear - the challenge as well. There is a **lack of support** and preparation that teachers and educators receive on the efficient use of technology and learning from others, including their students, coupled with an **increasing administrative workload**. Although everyone seems to praise teachers for the work they do, there seems to be an obstacle in adequately turning words into action - we call once again for investing in one of the most important professions in a society - a **multi-modal, multi-layered, initial and continuous professional development of teachers and other educators (including parents)** is an absolute imperative to support any substantial innovation in education!

Project!

The t-MAIL project, by the European Distance and E-Learning Network (EDEN), aims to develop and test a mobile application supporting policy, teacher education, and primary school teachers in implementing classroom practices that stimulate students' self-regulated learning.



REASSESSING ASSESSMENT METHODS



Apart from the potential to improve teaching and learning processes, digital technologies can also support **new assessment methods, including self-assessment**, that can supplement traditional summative approaches; namely, **making assessment an integral part of learning** through artificial intelligence, machine intelligence, learning analytics and new ways of linking the assessment to learning materials. **Not even the world of work seems to be interested in young people who are only good at the “examination game”**, but more in those who show initiative and possess 21st century skills instead. Several technologies are being developed to **exploit the rapid feedback loops made possible by computers to support real-time, formative assessment**, and thus contributing to a more personalised learning process²⁷. These new methods may be **combined with both other electronic assessment methods**²⁸ (e.g. e-portfolios, role-plays and scenarios, interactive activities, virtual or remote laboratories and field trips) and with more traditional assessment methods.

22. Commission Staff Working Document (2008). The use of ICT to support innovation and lifelong learning for all - A report on progress.

23. Bitzer, E. M.; Bleckmann, P.; Mößle, T. (2014). Prävention problematischer und suchtartiger Bildschirmmediennutzung Eine deutschlandweite Befragung von Praxiseinrichtungen und Experten. KFN-Forschungsbericht 125. Niedersachsen, Kriminologisches Forschungsinstitut.

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25. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. MIS Quarterly, 27 (3).

26. Santos, I., & Carvalho, A. A. (2017). Training and Monitoring: a two-stage training model in teacher professional development. Educação & Realidade, 42(1),

27. Johnson, L. et al (2014). NMC Horizon Report Europe - 2014 Schools Edition

28. Llamas-Nistal, M., Fernández-Iglesias, M. J., González-Tato, J., & Mikic-Fonte, F. A. (2013). Blended e-assessment: Migrating classical exams to the digital world. Computers & Education, 62.

TECHNOLOGY AS AN EMPOWERMENT TOOL FOR THE ALREADY-EMPOWERED?

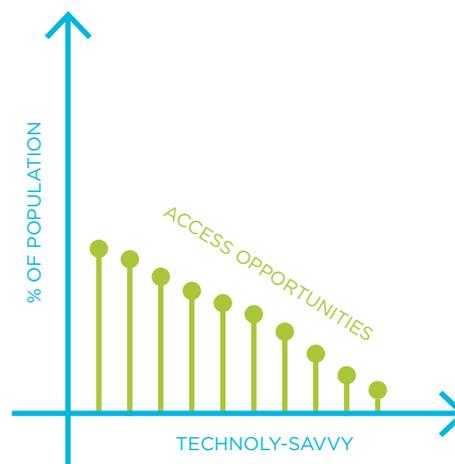


The emergence of online encyclopedias and MOOCs, as well as widespread digital devices, especially smartphones, have created many opportunities to bring “education” and health services closer to marginalised groups²⁹. Therefore, it is clear that there is a need **for investment in infrastructure and up-to-date digital devices and educational software**. However, the Eurostat data shows us that the digital divide is not closing: 45% people in the European Union do not have basic digital competences³⁰, although technologies are becoming increasingly affordable (e.g. the lack of computer access shrank across the OECD countries in the last few years). Mainstreaming digital access in education is not sufficient, because **equal access to technology does not automatically imply equal learning opportunities**.

The learners who are the most in need of support – the ones with lower skills, likely to drop out or with least resources – are also those who are **least likely to benefit from the digital era**. As Toyama warns, technology also “at best only amplifies the pedagogical capacity of educational systems; it can make good schools better, but it makes bad schools worse”. That is how technology can become an **empowerment tool for the privileged, instead of an opportunity for everyone**.

Highly educated people are three times more likely to be using the Internet as compared to those with lower educational levels³¹. Around 80% of the learners on MOOCs already have university degrees³². Differences in ICT use between different socio-economic groups among 15-year-olds are comparable to those found in the adult population, according to the 2016 PISA Study. The results of two surveys conducted in Switzerland and the Netherlands show that **people with higher levels of education use the Internet more for personal development opportunities**, whereas the less educated seem to be more aware of only the entertainment aspects of the Internet³³. The central issue is that more privileged individuals also have more access to the “enabling conditions” – **competences, attitudes and motivation**, which are a prerequisite for meaningful digital participation and **ensuring that the world of information translates into the world of knowledge**.

It is crucial to change institutional practices of schools, but also other learning environments such as libraries and cultural centres, to make them equitable by offering substantially varied and deeper support structures to all learners (children, students, teachers, young people, adults, the elderly) with lower socio-economic status.



INVESTING IN BASIC SKILLS THE FOUNDATION OF DIGITAL STRATEGIES



Since digital machines and robots can perform work previously done by humans in a quicker and less costly way, there is a **growing need for skills and competences that can complement technologies**. These competences are based on higher order thinking and problem-solving capacities, as well as proficiency in both formal and symbolic language, rooted in mathematics and literacy, respectively. **The digital divide will persist even if all Internet services were available free of charge unless low achievement in basic skills across Europe is tackled first**³⁴.

29. OECD (2015). OECD Digital Economy Outlook 2015, OECD Publishing, Paris.

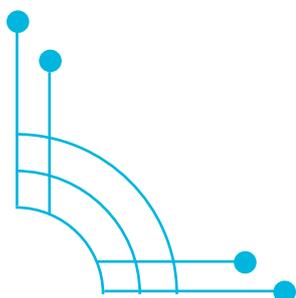
30. European Commission (2016). European Digital Progress Report

31. European Commission (2008) Commission Staff Working Document. The use of ICT to support innovation and lifelong learning for all - A report on progress

32. Harvard Business Review (2015) “Who’s Benefiting from MOOCs, and Why”

33. van Deursen A., van Dijk J. (2014). The digital divide shifts to differences in usage. University of Twente, Netherlands.

34. van Deursen A., van Dijk J. (2014). The digital divide shifts to differences in usage. University of Twente, Netherlands.



In the last decades the development of life skills seemed to more easily take place in informal and non-formal learning settings. Therefore, in addition to assisting the formal education actors in the efforts to become lifelong education providers, investing in the capacity of **non-formal education providers provides a substantial added value. They are the ones who can better reach out to low-skilled adults, school drop-outs, senior people, the socio-economically disadvantaged and certain vulnerable groups such as people from migrant backgrounds and some ethnic minorities, to ensure provisions for people's right to learning opportunities throughout life and active ageing.** Another way to give new opportunities to the disadvantaged is by giving them the possibility to **validate their learning with digital, online and open learning resources (and other forms) via various assessment and self-assessment, formative and summative methods.**

Project!

EFIL, the European Federation for Intercultural Learning, and YEU, Youth for Exchange and Understanding, initiated the European Badges Alliance, a project based on the use of open digital badges as a worldwide standard to validate and recognise learning acquired in non-traditional settings, with particular reference to learning mobility.

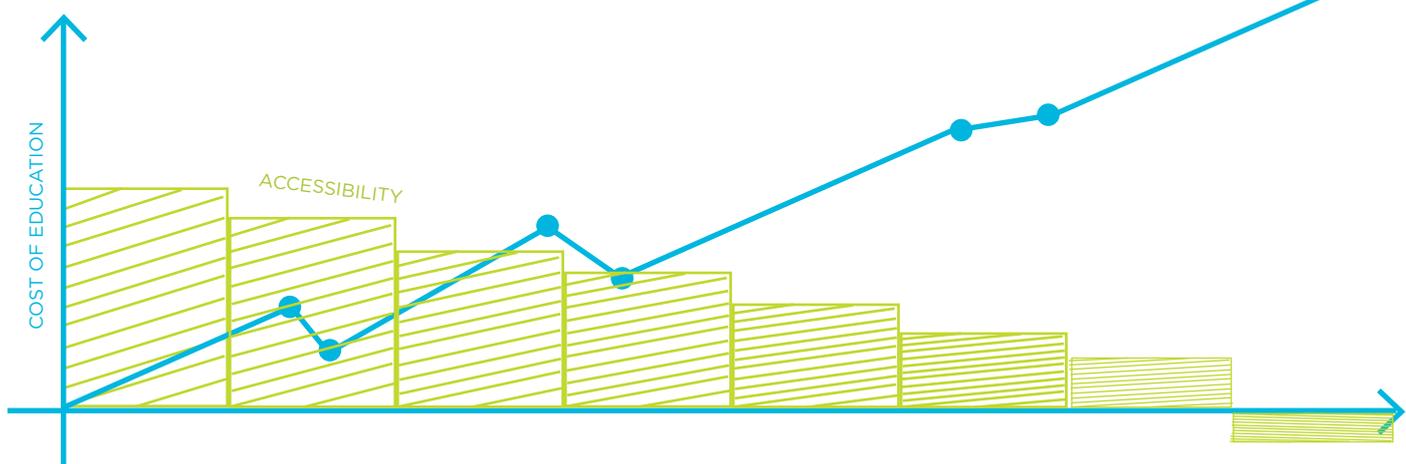
ADDRESSING THE COMMERCIALISATION OF EDUCATION THROUGH DIGITAL TECHNOLOGY



The global phenomenon of the digital merchandising of education is on the move. Large digital companies, and **GAFAM in particular (Google, Amazon, Facebook, Apple and Microsoft), are trying to impose their standards in education**, by introducing school equipment but also when it comes to teaching practices. They do so by signing “agreements” providing software and educational resources, offering teacher trainings under the guise of foundations, and equipping schools in difficulties and low cost schools with their products.

The massive introduction of algorithms associated with artificial intelligence is still a potentially underestimated threat, in terms of **the risk it poses to the pedagogical freedom of teachers and educators, as well as data security and privacy concerns.** An algorithm can potentially be presented as the solution to the individualisation of learning, not only by offering teachers and educators the opportunity to build their classes and courses, but also by proposing technological improvements which are usually directly linked to their own needs and business profit and not necessarily always to the benefits of society and the public good.

In order to effectively prevent potential threats of the digital commercialisation of education, the following rules could be introduced: **interoperability of hardware and software** (no one should be required to use a specific hardware or software), **systematic use of free software** solutions (when possible), **matching the needs for security, providing access to the source code of algorithm solutions** and (financially) **incentivising the production of free digital resources**, responding to the needs of the grassroots level, and emancipatory pedagogies thought through over time instead of the often short-term expectations and cravings of the market.



DIGITAL TECHNOLOGIES AND CAREER PATHS



Reflecting broader socio-economic inequalities and rising income inequality, the gap is also widening between the need for lower-skilled as well as high-skilled workers, on one hand, and medium-skilled workers, on the other. The World Employment and Social Outlook: Trends 2015 report³⁵ confirms that medium-skilled jobs, e.g. carpenters, shoemakers and bookkeepers are more and more in decline, whereas there is a rise in the demand for lower-skilled workers and physical jobs (e.g. security staff) and high-skilled ones (e.g. legal representatives)³⁶. Digital technologies are today progressively used across different sectors and they can **revitalise those sectors where new jobs are expected to be created in the coming years. There is a variety of other career advancement tracks, including learning at the workplace and mentoring tracks, vocational training and community based courses**, that can both reinforce knowledge about digital technologies and be reinforced through them, in an enhanced **cooperation between educational institutions, civil society, broader communities and employers.**

In times of ever-stronger globalisation, digital technologies are increasingly used as a device to **bring education provision closer to the needs of the economy** by pushing for economisation of costs, upskilling the workforce, turning learners into consumers and **increasing competitiveness, instead of addressing the real concerns and needs of learners**³⁷. For instance, an increasing pressure on universities to remain competitive resulted, among other things, in the creation of MOOCs. Whether they in fact stimulate innovation can be easily disputed, as they most often serve for the **transfer of knowledge instead of the creation of knowledge**. The use of the Internet in schools is also more often associated with **servicing the institutions themselves** - supporting administrative, bureaucratic needs and pupil information systems - rather than learning and skills development.

Project!

ALL DIGITAL developed the I-LINC project, an online platform connecting stakeholders with an interest in improving youth employability and entrepreneurship. It aims to gather existing platforms, networks and resources that are available on the topic of ICT (for) learning and inclusion.

NEEDS OF SOCIETY > NEEDS OF ECONOMY



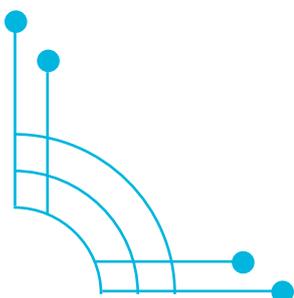
These global tendencies are currently reflected in the European Commission's only major initiative in the field of digital learning, the **Digital Skills and Jobs Coalition**. Announced in 2016 as part of the Skills Agenda for Europe, the initiative pushes for action to stimulate investment, the acquisition of digital skills and creation of jobs. While the Lifelong Learning Platform **welcomes the will to develop digital skills strategies and coalitions at the national level**, it emphasises that such initiatives need to be carried out in a **comprehensive, equitable and holistic manner**. The **overrepresentation of companies, banks and the industry**, invited to upskill workers and make sure they "remain productive", hinders the long-term vision of the full potential that digital technologies and the digital age can have in education as well as society.

According to the 2016 Bratislava Declaration, the **European Commission also suggests reforms based on employer interventions in the curricula** which should now include more technological and business skills. Although there is obvious potential in cooperation between the public and private sectors, **it is very dangerous to make the industry either de jure or de facto the curriculum creator**. Having a job is only a part of one's life, and the **economy's needs are only a part of what society needs. When economic priorities are overemphasised in education design, a holistic and humanistic vision of education that empowers citizens in multiple spheres of life, acts as social glue and gives a voice to the voiceless, is jeopardised!**

35. ILO (2015). World Employment and Social Outlook: Trends 2015

36. Autor, D. (2010) The Polarization of Job Opportunities in the U.S. Labor Market. Implications for Employment and Earnings. MIT Department of Economics and National Bureau of Economic Research

37. Thomas (1995). Access and inequality. Information technology and society. Heap N. et al (Eds) Sage publications.



SAFE NAVIGATION THROUGH DIGITAL WATERS



As part of learning with digital technologies, people, and particularly minors and those guiding them (parents, guardians and teachers), need to learn about online risks they may face and ways of prevention, which includes emphasis on **media literacy and critical thinking**. Users with low socio-economic status are particularly prone to suffer from the risks, which include **learning about (data) privacy issues**^{38 39}, **contacts with strangers and cyberbullying, as well as phishing, “sexting”, “sextortion”, IGD (Internet gaming disorder)**⁴⁰, **digital work-related stress symptoms**⁴¹, **FOMO (“fear of missing out”)**⁴² etc.

In partnership with **parents, health professionals and non-formal education providers**, educational institutions need to participate in developing an **age-appropriate curriculum**, to train people to be critical users of electronic media, to be able to make relevant and informed choices and avoid harmful behaviour. Schools need to be precise in their description of online teaching materials and their suitability. Additionally, minors (and adults) need to balance **the use of digital technologies well with time for other activities such as sports, arts and music**, but also ensuring sufficient sleep: Namely, there are studies that found some negative impacts of prolonged “screen time” on adolescent sleep^{43,44}, physical activity⁴⁵ and wellbeing⁴⁶; Classical, well-documented risks of over-exposure to screen media are sleep disturbance, overweight, ADHD, loss of empathy/aggression, and notably lower educational achievement⁴⁷.

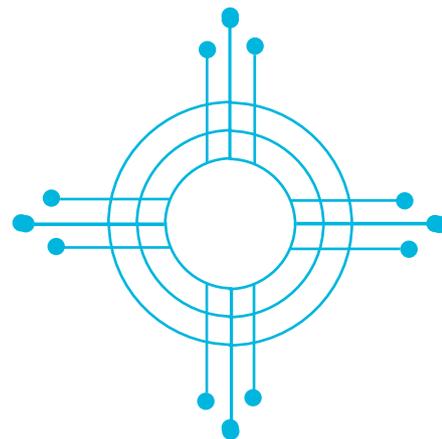
Digital technologies are of great importance in **building transnational digital communities and preserving personal relations**, particularly for those groups whose mobility is restricted. However, there is another side to it; namely, **teenagers who spend more than six hours online on a daily basis are more likely to report being lonely at school and feeling isolated**. Although causality cannot be proven with these PISA findings, they imply a correlation between well-being at school and non-excessive use of electronic media outside of school.

CROSS-DISCIPLINARY RESEARCH AND THE UNKNOWN



What are the conditions that enable digital technologies to make a change? What are the examples where conventional methods are more useful? Do they promote any societal values and competences that are worth preserving? Does digital technology only amplify or also disrupt social patterns? What are the advantages of being “disconnected”? ...

The impact of digital technologies in education is not always simple to evaluate and indeed, **there is a lot we do not know yet**. So far, the most prominent attempts in Europe have been made in countries with a somewhat longer experience with ICT in education, such as the UK and the Nordic countries. **Investment in unbiased, cross-disciplinary longitudinal research on different aspects of digital technologies in education is needed, interlinking educational sciences, pedagogy, psychology, sociology, neuroscience, engineering and computer sciences**, to further explore how the minds of children and adults are being developed and are developing in the digital world. This shall involve the **developmental stages, learning goals, settings, prerequisites on the learner’s side, and the product characteristics on the technology side that maximise the benefits and minimise the risks of its use**.



38. Uhls et al. (2014) Five days at outdoor education camp without screens improves preteen skills with nonverbal emotion cues. *Computers in Human Behavior*, Volume 39

39. Pagani et al. (2010) Prospective associations between early childhood television exposure and academic, psychosocial, and physical well-being by middle childhood.

40. Petry et al. (2014). An international consensus for assessing internet gaming disorder using the new DSM 5 approach. *Addiction*, 109(9), 1399-1406.

41. Arbeit, DGB-Index Gute Arbeit (2016). *Arbeiten ohne Ende-Wie verbreitet sind überlange Arbeitszeiten*. Kompakt Ausgabe 1

42. Alter, A. (2017). *Irresistible. The rise of addictive technology and the business of keeping us hooked*. New York: Penguin Press.

43. Cain and Gradisar (2010). Electronic media use and sleep in school-aged children and adolescents: A review. Flinders University, Adelaide.

44. Hysing et al., (2015) Sleep and use of electronic devices in adolescence: results from a large population-based study. *BMJ Open* 2015

45. Melkevik et al., (2010) Is spending time in screen-based sedentary behaviors associated with less physical activity: a cross national investigation. *International Journal of Behavioral Nutrition and Physical Activity*

46. Richards et al. (2010) Adolescent Screen Time and Attachment to Parents and Peers. American Medical Association.

47. Nunez-Smith, M. et al. (2008); *Media and child and adolescent health. A systematic review*. Washington, DC: Common Sense Media.

ABOUT THE LIFELONG LEARNING PLATFORM

The Lifelong Learning Platform was born in 2005 as a response from civil society organisations to the definition and implementation of a European policy in the field of education and training in the so-called “Open Method of Coordination”.

In 2001 already, several educational networks had come together to share their experience and expertise around a Europe-wide consultation on the EU “Lifelong Learning Memorandum”. This cooperation became systematic when the Platform was established as a permanent organisation in 2005. For 10 years now, the Lifelong Learning Platform has played a key role in structuring and increasing the input of civil society on the “Education and Training 2020” and “Europe 2020” strategies and their predecessors.

The Lifelong Learning Platform was acknowledged by the European Commission in 2009 as a “unique representation” of lifelong learning of the various education and training actors organised at EU level, and in 2011 as “in a unique position to support European networks in education and training to work collectively at European, national and local levels and to contribute to a structured policy dialogue within the open method of coordination in education and training”.

Gathering 41 organisations, the Lifelong Learning Platform is today the most legitimate interlocutor of the EU institutions in the field of lifelong learning. It continuously defends the need to implement a dialogue across educational sectors and between stakeholders and public institutions at all levels, regional, national and European.

Values

The platform fosters a vision of lifelong learning that promotes equity, social cohesion and active citizenship. It believes that the objectives of education and training should not only be described in terms of employability or economic growth but also as a framework for personal development. It is essential to raise awareness on the fact that lifelong learning should include a large range of learning settings and create more complementarity and continuity between formal, non-formal and informal learning.

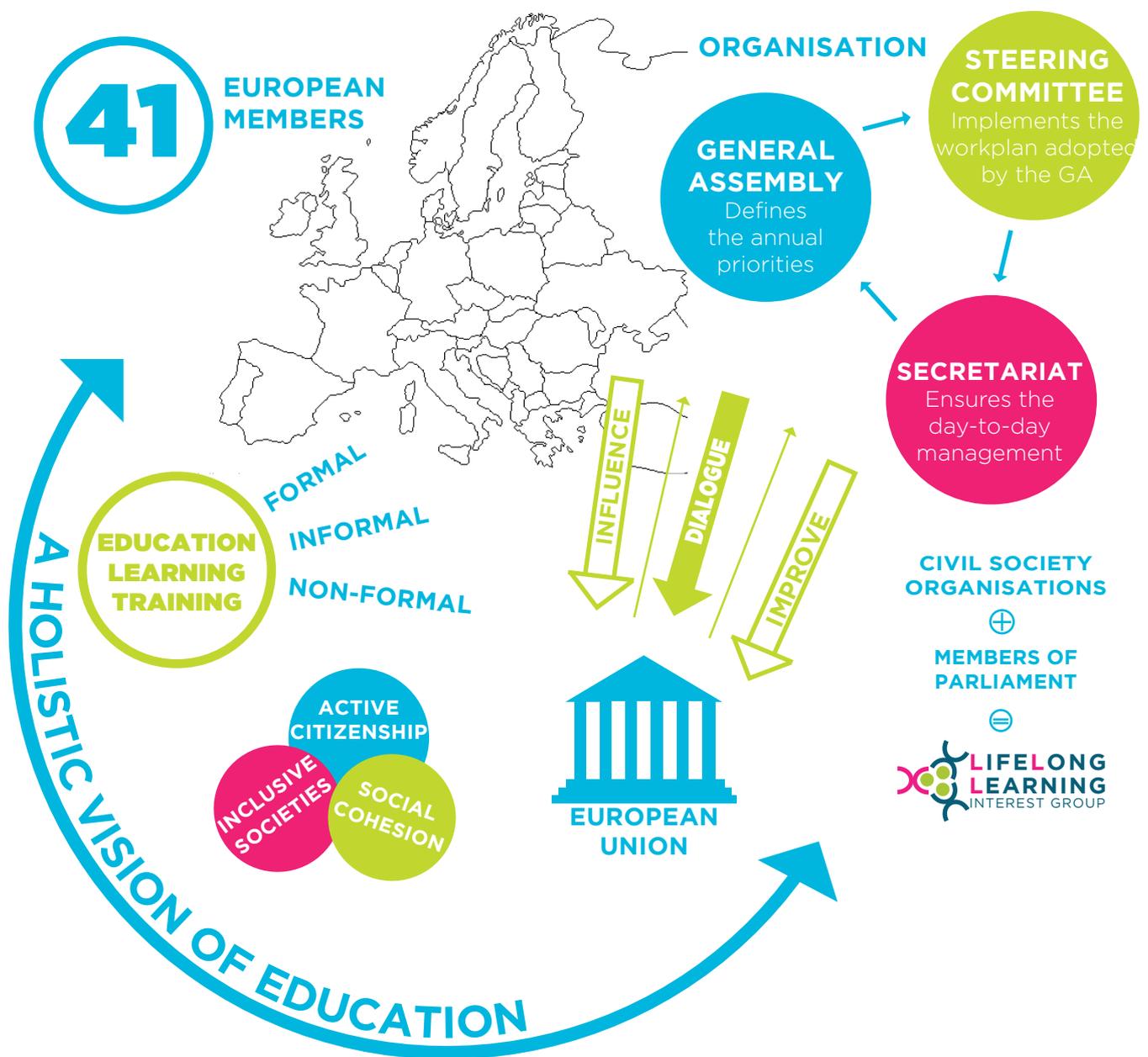
Vision

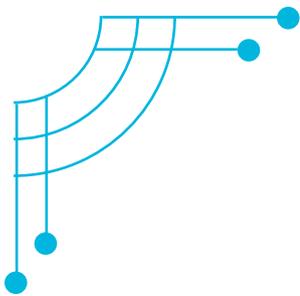
The Lifelong Learning Platform promotes a holistic vision of lifelong learning, from cradle to grave, that is not limited to formal education but integrates non-formal and informal learning. By bringing together actors from all sectors and levels of education and training, The platform contributes to an increased flexibility between systems. By encouraging an exchange of knowledge, it aims to build a citizen’s voice on education and training issues but also to propose concrete solutions to make lifelong learning a reality for all.

Objectives

- Pursuing an active dialogue with European institutions
- Enabling exchanges of best practice, experiences and expertise
- Disseminating information on key issues in the lifelong learning sector

Building the future of education!





LIFELONG LEARNING PLATFORM

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