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ePRI4ALL

Learning Outcomes Report

Result 1 – T3

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1. Introduction

In line with the EU Digital Education Action Plan (2021-2027), which “sets out a common vision of high-quality, inclusive and accessible digital education in Europe, and aims to support the adaptation of the education and training systems of Member States to the digital age”, this Global Report summarises all the information gathered in the National Reports written by the project partners (UAL, EKKE, UNIMORE, Danmar Computers) with the results from the interviews conducted with experts and primary school principals.

The main centre of interest are the skill gaps of principals identified as a result of the emergency shift to online learning in 2020 because of the COVID-19 pandemic. In February 2020 schools in the regions of Northern Italy started to close. Nationwide suspension of in-person classes followed on 4th of March 2020. Only a few days after, Greek, Spanish and Polish schools also shut down.

Greece progressively reopened educational institutions from early May 2020 while Italy and Spain postponed reopening until September of the same year, keeping prevention measures and the possibility of remote learning when students had to stay home in quarantine. In Poland, on the other hand, schools remained closed until January 2022.

The aim of this report is to map the current and emerging training needs of primary school principals to establish the learning outcomes that will guide the development of the ePRI4ALL training course. In order to do so, the report briefly describes the methodology used for field research to then summarise the most important results gathered by partners about the role of digital education in primary schools, existing training for principals and teachers, the lessons learnt from the pandemic, the promotion of digital education in schools and the aspects related to the design of the training course of principals. Then, a proposal for learning outcomes is presented.

It is important to clarify that the term “digital education” is used in this report to refer to the use of digital technology for educational purposes.

2. Methodology

2.1 Instrument

A total of ninety-nine in-depth semi-structured interviews were conducted by UAL, EKKE, Danmar and UNIMORE based on the translated versions of the two questionnaires prepared and shared for that purpose by UAL. Most interviews were conducted via videoconferencing (Google Meet, Skype, Webex) and some took place in person. They were recorded either on video or audio format and then transcribed and analysed.

2.2 Participants

A total of thirty-eight experts including scholars, researchers, ICT trainers, teachers, and national and regional programme coordinators and sixty-one primary school principals were interviewed by the project partners.

The interviewed principals range in years of experience and work in schools from different contexts: urban and rural areas, different socioeconomic levels and

percentage of students of minority or migrant background across Italy, Poland, Greece and Andalucía in Spain (the Spanish national government shares competences in the Education with the autonomous communities, the main context of reference for this report will be Andalucía, where most of the interviewed principals work).

3. Results

3.1 The role of digital education in school

There is wide agreement regarding the fact that primary education needs to take place in person and that digital education should be a means to enable learning and not an end in itself.

Remote learning, on the other hand, deprives children of the socialising role of the school and is seen as a useful resource in cases of emergency as proven by the recent COVID-19 pandemic. Interviewees also see the potential of remote learning for adults, playing a key role in lifelong learning.

The need for children to acquire digital competences to successfully participate in the so-called “digital era” is hardly questioned by interviewees. In this sense, digital education in early stages of schooling is recognised by experts and principals as inevitable and essential for the present and the future. The pandemic has brought about great development in this area and most Administrations have directed funding towards this process.

ICT initiatives have been around since as early as 1997 in Italy, for example. However, investment in infrastructure has not been accompanied by clear pedagogical goals and without a rethinking of educational methods.

Results show that when it comes to the classroom, the main aspect to take into account is that the use of digital technology must have a clear objective, to improve learning. Its use must be aligned with the educational project of the school, this is, its pedagogical principles and its objectives.

These potential negative effects are a key element to take into account according to experts. Primary school pupils, because of their age, are especially vulnerable when it comes to the risks using digital technology entails. Practices and measures to prevent these unwanted effects should be an utmost priority for schools.

The need to reach an agreement with families regarding the use of digital technology and work hand in hand with them has also been indicated as crucial by interviewees.

3.2 Existing training for school principals and teachers on digital education, inclusivity and interculturality

The results of all four partners show that specific training to prepare access to the position of head of school or principal does not include training on digital skills, inclusion or interculturality. In most cases, training courses offered in these areas are intended for both teachers and principals and are not specifically designed for

school leaders. However, some associations such as the Principals Association of Andalucía (ASADIPRE) or educational movements such as the "Senza Zaino" schools in Italy, organise specific training for principals.

There seems to be no structured training paths for principals after initial training. Nevertheless, many principals further their training taking courses or even enrolling on master's programmes.

Available training courses for teachers and principals concerning digital technology in the participating countries is mostly aimed at developing their digital skills and competences rather than pedagogical ones. This is, training tends to be focused on technical aspects, such as the use of a specific digital tool, rather than being centred in the educational potential and limits of such tool.

"A lot of money has been spent on teacher training, but the percentage of teachers who are aware of the power of technologies within educational pathways and who use them systematically to transform their teaching is really residual compared to the majority of teachers." (PI10)

In general, teachers either take training courses through regional entities and universities or are trained in their schools by peers (ICT staff, Digital Animators, project coordinators) or external trainers. Some principals and their management teams also provide specific on-site training for their staff.

One of the most highlighted problems regarding teacher training on digital technology is that it is usually not compulsory. This is generally also the case for inclusivity and interculturality training. Some of the courses mentioned in these areas have to do with working with Roma communities and the reception of immigrant students. Courses dealing with inclusion differ from one country to another and might focus on children with specific educative needs, disabilities or Universal Design for Learning (UDL) principles in the case of Spain as UDL is currently the official framework of reference for inclusivity in education in the country. Once again, training seems to be mostly dependent on teachers' and principals' interests, motivation and dedication.

The following is a list of the skills management teams could improve to favour the inclusion of vulnerable pupils and families, according to principals:

- Communication skills.
- Predisposition for getting close to families.
- Finding families who are committed and involving them, so they participate and help spread what goes on in the school.
- Pedagogical leadership.
- Understanding inclusion.
- Universal Design for Learning (UDL).
- Empathy.
- Shared leadership: involvement of the staff in the decision-making process and implementation of school plan to ensure success.
- Understanding the role of the school in helping families, especially those vulnerable ones.
- Pedagogical and psychological skills.
- Individualised learning.



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- Managing crisis.

3.3 Lessons from the COVID-19 pandemic

3.3.1 Infrastructure gaps

Results show infrastructure was generally insufficient to deal with the switch to remote learning during the pandemic. As mentioned in the introduction it should be taken into account that in most cases online classes were only held for a few months from March 2020 (and on occasional quarantine periods of a class group, for example), except for Poland.

Most primary schools had some kind of infrastructure, usually computer labs and Internet connections. However, during lockdown principals and teachers were also either obliged or encouraged (depending on national measures) to say home. Most principals and teachers had to use their personal devices during that time.

Infrastructure gaps during lockdown meant the right to education of many students, mostly from vulnerable families, was violated, as they just 'disappeared' from the system.

The vast majority of students were able to continue their education but not necessarily without difficulties. The two key elements of digital divide were devices and connectivity.

Generally, high-income families either already had laptops at home or were able to purchase them at the time the pandemic hit, but in middle- and low-income households a common problem was families did not have enough devices for all of their members to work online at the same time. Among the most struggling families were foreign families, many of whom only had mobile phones and, in many cases, no Wi-Fi connection at home.

During lockdown, many principals and teachers tried to secure devices for their students. Some Public Administrations (Ministry or Regional level) provided a limited number of laptops or tablets for students in digital divide. Often, parent associations, town halls and private institutions also contributed to this effort.

After lockdown, public funding has been mobilised to address infrastructure gaps. This has meant that schools and/or vulnerable families have received devices (or vouchers to contribute to their purchase). Laptops were accompanied in many cases by a portable internet device (SIM card or USB modem) with pre-paid connectivity for a few months.

In general, schools, teachers and families are now better equipped than before the pandemic. Nevertheless, as UNIMORE points out, this equipment has most frequently been purchased without planning for ongoing maintenance. It seems this issue has been a common characteristic of ICT investment in education long before the pandemic.

3.3.2 Training or instructions received to manage the situation

Results from the four countries show principals had to organise distance learning on their own terms when lockdown was imposed as they received general ministerial guidelines later. Even then, in most cases, principals had a great autonomy on how to proceed. Official guidelines mainly dealt with the use of platforms and videoconference applications authorised as official ones or recognised as safe.

Schools that reacted more promptly were those who were more open, this is had a higher degree of social permeability and/or stronger leadership. Also, those with stronger digital plans in place had a quicker switch to online learning. On the other hand, schools which were less digitally prepared and/or were more bureaucratic and closed, with weaker leadership, had greater difficulty adapting to circumstances and sometimes passively waited for directions from the Administration to take distance learning measures.

Most principals did not receive any official training during the first stage of the pandemic. Teachers and principals usually self-train on online communication, the use of online platforms and applications for creating and sharing learning materials. Peer training was also essential at the time. More digitally competent principals or teachers supported their colleagues within school communities or broader online educator communities. Some groups also set up reflexion and discussion online spaces. In this sense, the pandemic has strengthened networking among school leaders. Official courses dealing with distance learning and digital gap issues generally starts to be offered after the first few months of the pandemic.

3.3.3 Main difficulties (apart from infrastructure)

Aside from the aforementioned infrastructure gaps, the main difficulty in teaching and learning during the pandemic was the low level of digital competence among the school community.

Even though they are considered “digital natives” because of their almost inherent ability to use smartphones and apps, the situation caused by the pandemic has proven that children generally lacked competence in the use of other digital technologies. Especially in the case of younger children, parents had to help students connect to online classes and work on platforms. Many had great difficulty or were not able to provide this assistance because they lacked skills and knowledge regarding the use of devices and platforms. Parents from vulnerable contexts, and also from rural areas or smaller towns who generally do not use digital technology in their jobs were especially affected by this situation.

As for teachers, many were not prepared to use applications and other digital resources for teaching, creating materials and communicating with students and their families. Furthermore, most teachers lacked skills and knowledge on the didactics of e-learning and intended to replicate face-to-face teaching practices in

the online setting unsuccessfully. Teachers who adapted their methods and proposed challenging tasks and activities had less difficulty engaging students.

3.3.4 Communication with the school community

In general, it can be stated that the pandemic has brought about or accelerated changes in the means of communication used within the school community. Before COVID-19 staff meetings and parent-teacher meetings mostly took place in the school. Official written communication was still hand it out to teachers and families in paper in many cases. Sometimes messaging applications like WhatsApp (in Spain) or Viber (in Greece) were also used for informal or organisational matters among the school staff. Exceptionally, in Italy, digital bulletin boards and logbooks, and sometimes the school website, were the main tools for official communications, along with e-mail, even before the pandemic. This was also the case in some schools in Spain using official platforms (SENECA – iPASEN in Andalucía).

While in some schools (usually smaller ones in towns, rural areas or close-knit communities) the lack of face-to-face daily contact with families was highlighted as a negative effect of the pandemic, it seems in other schools this exceptional situation gave staff and parents the opportunity to build closer relationships as contact became more frequent, direct and immediate.

During the pandemic principals mainly used videoconferences, applications and platforms, instant messaging, emails, electronic diaries, phone calls and even social media to communicate with teachers and families.

Many of these channels of digital communication with families remain open after the end of the pandemic. Schools have generally resumed parent-teacher meetings in-person, though many still offer the possibility of connecting remotely. Official written communication is mostly conducted via applications, platforms or email after the pandemic.

As for staff meetings, some principals have decided to go back to in-person meetings only while others still hold some online meetings, especially informative ones.

3.3.5 Teaching with digital technology after the pandemic

In general, results show schools are now better equipped for digital education and there is an increase of the use of digital technology in primary schools after the pandemic. However, this use varies from school to school across all four countries and it is also dependant on their pedagogical approach. Some schools have established a close link between technology and innovative teaching, using DT as a means to promote collaborative teaching and learning practices, flipped classroom methodology and/or competence-based learning. The use of laptops in the classroom seems to be more present in Spanish and Italian schools.

In contrast, many other schools seem to only use digital platforms or applications for homework activities or assignments, access to extra digital materials. Additionally, some principals mention using digital resources for digital interactions via email with Erasmus+ partners in other countries.

When asked about training needs regarding teaching with digital technology, respondents claim that even though the pandemic has forced most educators to familiarise themselves with digital media, there is still a need for training. They specifically mention technical training needed in the use of devices (and continuous updating as technology develops), the creation of educational materials and matters concerning the use of the Internet such as privacy and copyright.

Also regarding training needs, some principals pointed out the lack of working hours they can devote to training an experimenting with digital technology as an important drawback. Another claim is the lack of pedagogical training on how to choose the right digital tools or how to effectively integrate them in the syllabus. Lastly, some principals claim that training is often dependent on teachers' willingness, and many believe it should be mandatory.

3.3.6 Student assessment

As with the use of digital technology in the classroom, student assessment is also very closely linked to the pedagogical approach of the school or individual teachers. The pandemic made this very evident. The way most school organised their teaching during lockdown could show the concern was instrumental: not to waste the school year, focused on not missing content or knowledge rather than on the acquisition of competences.

For many educators, assessment was not a priority during lockdown, especially for younger students. These teachers mostly emphasised values, participation and responsibility when assessing students during that period. On the other hand, some teachers and parents were concerned about children not learning, i.e., learning content. Consequently, these teachers tried to replicate traditional written tests online and, consequently, worried about plagiarism.

Assessment has not changed much after the pandemic. In some cases, some changes have been implemented regarding the use of digital assessment tools as an alternative or complement to traditional instruments, i.e., written exams. Nevertheless, in general, assessment seems to have suffered changes, if any, mostly related to changes in education laws, such as the introduction of criterion-based, descriptive evaluation in elementary school in Italy from 2020.

3.3.7 Good practices in digital education

Interviewees highlighted cooperation, solidarity and sharing among educators as the best practices during the pandemic. This also includes peer training and

collaboration among schools. The development of central national digital tools, digital teaching materials, and platforms such as e-me (Greece) was also praised.

Other practices included initiatives to create a protected environment and to pay attention to the gradualness of digital use, based on school-family awareness and agreement (Italy). Other interesting initiatives include twinning and shadowing programmes between teachers and schools to foster the dissemination of good practices.

3.3.8 Changes in attitude towards digital education

Interviewees identify some degree of positive change in the attitude towards education authorities, teachers and families towards digital education as a result of the pandemic. For instance, many teachers have realised they have training needs and have taken action on the matter and authorities have directed funding and efforts towards infrastructure and the development of teachers' digital competence as mentioned previously in this report. Although some families do not agree with the digitalisation of education, parents are generally on board with digital education initiatives.

However, according to some experts, the change imposed by the pandemic has been too sudden to bring about real changes in attitudes in teachers and families and mention a backward shift. In this way, the momentum digital education had during the pandemic might not bring real change if it is not supported by investment, reflexion, and implementation of sustainable and effective practices.

3.3.9 Lessons learned from the pandemic

Solidarity, collaboration and communication among principals, teachers and families was key to get through the pandemic and there is a need to establish a digital culture within the school community that promotes openness and inclusiveness.

The school community (educators, students and families) was not ready in terms of competence and infrastructure, which meant many children from vulnerable socioeconomic contexts were left behind. Furthermore, in most cases, educators were not able to tend to students with special education needs appropriately through technology.

Virtual learning proved that the teaching-learning process has generally been too reliant on textbooks and focused on content and pupils lack autonomy, i.e., learning to learn competence.

As for the pedagogical implications of digital education, digital technology has proven to be a useful means for active learning methodologies (project-based learning, task-based learning, etc.) and its use seems to have promoted a shift to more participatory and interactive teaching.

However, there has been a lack of reflection and, in order to make the most of this experience, this post-pandemic period should be used to reflect on the opportunities offered by digital technology and to rethink its role in the school.

3.4 The promotion of digital education in primary schools

The main lines of action identified by interviewees as key in the promotion of digital education in primary schools are the following (in no specific order):

- Increasing funding for infrastructure, connectivity and digital resources for all.
- Strengthening training on digital and inclusive education.
- Understanding how digital technology can be used to foster deeper student learning.
- Planning long-term digital projects: the school community must have a clear vision of the role digital technology can play in learning.
- Involving all members of the school community (management, teachers, students, families).
- Promoting digital literacy.
- Countering the overuse of digital tools and the risk of addiction.
- Providing teachers with opportunities to test out different digital learning solutions and share their experiences.
- Encouraging teachers to redefine their role to become facilitators of student learning and to understand how technology can support them in doing so.
- Documenting, analysing and sharing national and international practices of digital education focusing on their implementation and lessons about their effectiveness.

3.5 Designing school principals' training

3.5.1 Essential content

The following table shows a summary of the contents the interviewed experts and principals consider essential to include in a training course for principals, organised by thematic areas.

| |
|---|
| Using digital technology |
| <ul style="list-style-type: none">- Using ICT tools and resources in education.- Selecting tools.- Understanding when and how to use tools in primary school.- Healthy habits in the use of technology |
| Educational leadership |

- Defining together with the educating community the identity of the school institution.
- Guiding innovation and promoting a culture of change.
- Understanding the added value of digital technology.
- Different types of leadership.
- Managing teams.
- Assessing the implementation of changes to make improvements.
- Carrying out a functional diagnosis.

Supporting teachers

- Supporting teachers to adapt their courses to the digital open education needs e.g., develop digital content, motivate students, adapt assessment.
- Supporting teachers in finding and accessing the training they need.
- Supporting teachers in creating OERs to support their courses.

Community involvement

- Community management to involve the entire school community in the process.
- Developing a digital open education culture involving all agents of the school community (students, parents, teachers, personnel).
- Communication within the school community.
- Conveying the importance of digital technology to the school community.

Inclusivity

- Supporting open access, inclusiveness, and equal involvement of all students.
- Targeting the effectiveness of lessons and the needs of all students.
- Challenges associated with diversity in the educational context.
- Inclusive assessment strategies and instruments.
- Designing open educative materials and resources based on Universal Design for Learning (UDL).
- UDL as a lens through which to view and implement digital education in schools.
- Inclusive teaching through digital technology.

Laws and regulations

| |
|---|
| <ul style="list-style-type: none">- Knowledge of national and European regulations regarding digital education. |
| Administration of resources |
| <ul style="list-style-type: none">- Finding solutions regarding administrative aspects of digital education, such as dealing with bureaucracy, getting funding, responding to emergencies, communication with the public services. |
| Safe use of digital technology |
| <ul style="list-style-type: none">- Potential dangers of technology (cyberbullying, addiction, etc).- Safety on the Internet, ethics, deontology, privacy issues, etc.- Information management e.g., recognising fake information/news and managing online information within the school community.- Digital literacy.- Competences of digital citizenship: critical use and consumption of technology and media content. |
| Interculturality |
| <ul style="list-style-type: none">- Intercultural education in working with children.- Getting teaching staff committed with diversity.- Embracing diversity (attitudes and values rather than knowledge or skills).- The use digital tools and active methodologies for intercultural education.- Promoting digital interculturality: communication and exchange programmes with schools from other countries. |

3.5.2 Desired course characteristics

Results show principals, who are generally very busy professionals, would find the following aspects motivating when considering doing a training course:

- Training should be useful, practical and applicable.
- Information from online courses should stay open or be downloadable so that the trainee can access as many times as needed after completing the course.
- Opportunities to create a community of trainers should be included: peer-to-peer discussion, support and mentoring.

- The course should alternate theoretical explanations with exchange and discussion opportunities and promote group work on practical activities and exercises.
- It should include real case scenarios for discussion and problem-solving tasks.
- It should also allow for opportunities to link the theoretical framework to practice, not only on a personal level, but finding a collective synthesis.

3.5.3 Most appropriate course format

The course format seems to divide opinion among interviewees. An online course is preferred by those who praise flexibility and the ability to self-organize their learning process. Others lean towards in-person training to allow for synergy. Many show a preference for a blended format to have both the flexibility to organise their learning, especially when dealing with theoretical aspects, and the opportunity for enriching face-to-face encounters with their peers, especially for sharing experiences and analysing practical cases. Asynchronous support or mentoring and final project work is also mentioned.

Finally, principals are mostly not against the possibility of using a video game for training, except in the case of Greece.

5. Proposal for learning outcomes

With the aim of providing learning-centred and original course content, the ePRI4ALL partnership intends to have learning outcomes that will be relevant and specific to the primary school principals' real and emerging needs, roles and responsibilities.

After analysing the results of all four National Reports summarised in this Global Report, and considering the proposal for learning outcomes made by each of the partners, as well as other already available MOOCs on the subject matter and the EU Frameworks (European Framework for Digitally-Competent Educational Organisations: DigCompOrg & European Framework for the Digital Competence of Educators: DigCompEdu), this proposal for learning outcomes takes into account the following points:

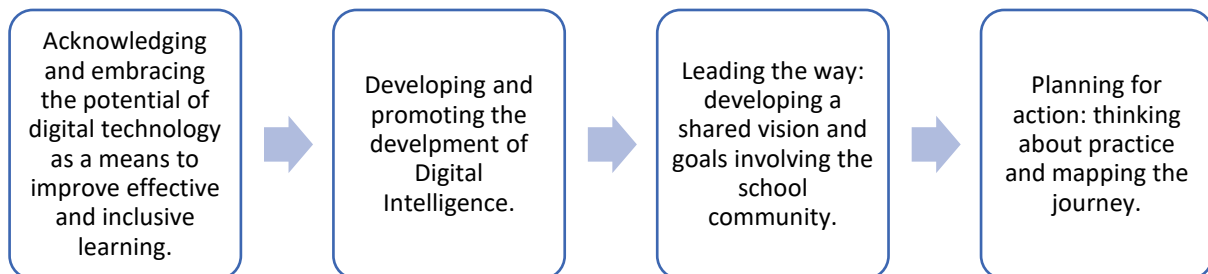
- The scope of the course is limited by its extension and therefore it is impossible to cover all the proposed learning outcomes.
- Many of the training needs of principals have to do with the use of digital tools or specific areas of study such as privacy and cybersecurity, which would require a course on itself, i.e., those learning outcomes are not attainable by means of a single MOOC course.

-

- There seems to be much training available dedicated to the use of digital technology but a lack of training regarding the pedagogical implications of its use.
- The pandemic has generally boosted educators' digital competence but there seems to be a lack of reflective practices on how digital technology can improve learning.
- School realities and contexts are different not only between countries but also within the same country and the implementation of digital education is at different stages in each school.
- The pandemic has highlighted the need for principals to be educational leaders and not only administrators and their leadership is essential in involving and supporting the school community in the use of digital technology to improve learning.

The proposal of learning outcomes here presented aims to align with one of the thematic elements of the European Framework for Digitally-Competent Educational Organisations (DigCompOrg): "Leadership & Governance Practices" and is intended to offer principals and/or (other) pedagogical leaders within the school tools to either initiate, develop or redesign the School Digital Plan¹.

Learning outcomes have been organised in a way that intends to make learning progressive and applicable, as summarised in this chart:



The first set of learning outcomes deals with the knowledge, skills and competences principals need to develop to embrace the potential of digital technology to improve effective and inclusive learning. Universal Design for Learning (the framework of reference for inclusion in Spain and some Italian schools) has been included as this could be an opportunity to introduce this practical approach to inclusivity in other schools across partner countries and contribute to reducing physical, cognitive, intellectual, and organisational obstacles to learning.

¹ In the DigCompOrg this is referred to as **digital capacity implementation plan**. "Some refer to plans like this as 'Digital Learning Strategy', 'eLearning Strategy' etc. But the main message here is that (i) there should be such a plan; and (ii) that it should be clear where it fits into the wider institutional context."



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The second set of learning outcomes aims to help principals develop and promote the development of Digital Intelligence.

The third set of learning outcomes gathers the knowledge, skills and competences that principals will use to involve the school community in the development and implementation of the School Digital Plan.

Finally, the fourth set of learning outcomes is intended to equip principals to continue this journey with an action plan. Making use of existing tools and resources and aligned with EU actions in this area, these learning outcomes allow for principals to plan their next steps according to their specific context and starting point.

There is a focus on reflection throughout the learning outcomes to allow for each principal to consider the specific needs of their school, avoiding standardised solutions that do not take into account the context.

To sum up, the proposal includes those learning outcomes that would add the most value to the largest number of principals whether they are starting to use digital education or are already using it in their schools but want to assess its pedagogical implications and ensure inclusivity. Together they would make for a reflexive orientation course with a tangible result, an individualised action plan.

Proposal for learning outcomes

Digital technology for effective and inclusive learning in primary school.

(K) Learners will know the potential and the limits of digital technology as a means to improve effective and inclusive learning in primary school.

(K) Learners will be familiar with Universal Design for Learning (UDL) principles.

(S) Learners will understand the need to define the pedagogical objectives of the use of digital technology.

(S) Learners will understand what changes in the pedagogical perspective are required for the use of digital technology for inclusive learning.

(S) Learners will understand the role digital technology can play in implementing UDL.

(S) Learners will understand how digital technology can become a means to promote interculturality.

(C) Learners will be able to reflect on their starting point: the school's pedagogical approach, the current use of digital technology in the school, inclusivity and interculturality.

Digital Intelligence development and promotion.

(K) Learners will be aware of skills pertaining to digital agility and digital creativity.

(S) Learners will understand how to effectively use social media with empathy, create a digital identity and maintain a proper e-reputation.

(S) Learners will understand how to avoid techno-stress and burnout through mindfulness and other tech-detoxification activities.

(C) Learners will be able to reflect on their own training needs regarding Digital Intelligence.

Leading digital inclusive learning.

(K) Learners will know the basic principles of school leadership applicable in the digital learning context to involve all members of the school community in the development and implementation of a School Digital Plan.

(K) Learners will learn about different national and international experiences of digital leadership in primary schools.

(S) Learners will understand how develop a shared vision and goals for digital learning in their school.

(S) Learners will understand how to encourage the participation of families in vulnerable and/or culturally-diverse contexts.

(C) Learners will be able to encourage their staff to enhance and share their skill set for the benefit of the whole school.

(C) Learners will be able to effectively address cases of digital resistance.

(C) Learners will be able to reflect on their starting point: leadership and school community's involvement.

Creating an action plan.

(K) Learners will know the importance of building a long-term plan for the use of digital technology and the development of Digital Intelligence among the school community that is aligned with the school's pedagogical approach.

(K) Learners will be familiar with the European Framework for Digitally-Competent Educational Organisations and the Digital Intelligence Framework.

(S) Learners will understand how to use available national, European and international tools to assess how digital technologies are being used to support teaching and learning in their school.

(C) Learners will be able to reflect on what they have learned from the course, the OERs and case studies.

(C) Learners will be able to define an action plan with the steps needed to plan for safe digital technology access and use for all and the development of Digital Intelligence among the school community.



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Annex I: Available MOOCs and resources

| | Provider | Description/Content |
|--|--|---|
| MOOC Course. ICT in Primary Education: Transforming children's learning across the curriculum. https://www.coursera.org/learn/ict-primary-education#syllabus | University of London | Content: Why and how are teachers integrating ICT (Information and Communication Technology) into primary education? -analysis of examples from schools in different parts of the world. The materials in the course are based on studies carried out for the UNESCO Institute of IT in Education, Moscow. Learning Outcomes: -to be aware of the range of reasons for using ICT -to critique the strategies for developing ICT over time -to analyse the strengths and weakness of different decision-making mechanisms -to become familiar with a wider range of useful tools and resources for integrating ICT |
| MOOC Course. Blended Learning Essentials: Getting Started. (Vocational Education and Training) https://www.futurelearn.com/courses/blended-learning-getting-started | University of Leeds & UCL Institute of Education | Content: -The role of assessment in the curriculum design process. Different approaches for using technology to support assessment and feedback. -The importance of inclusive teaching practices. The value of making education and training more accessible for learners. |
| MOOC Course. Educational Leadership: Improving Schools through Effective Leadership. https://www.futurelearn.com/courses/educational-leadership-improving-schools-effective-leadership | Coventry University | Content: -What is leadership, really? -Getting to know your own leadership style, strengths and weaknesses -An introduction to leadership theory and its practical applications -Leading change and shaping a successful school culture -Effective school leadership in times of crisis -Learning-centred leadership and school improvement |
| MOOC Course. Leadership of Education Technology in Schools. https://www.futurelearn.com/courses/education-technology-leadership-in-schools | Chartered College of Teaching | Content: -How to align a technology strategy with existing school strategies and communicate your vision effectively |



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| | | <ul style="list-style-type: none"> -What technical and security considerations need to be considered for effective implementation of a technology strategy -How to identify the workload implications of your technology strategy -How to establish and sustain a professional learning culture that can support effective and efficient uses of education technology |
| | | |
| <p>SELFIE for TEACHERS https://education.ec.europa.eu/selfie</p> | EU | A free online tool to support teacher to build their digital skills. It takes around 30 minutes for teachers to answer a series of statements about how they currently use technologies across six areas of their practice. Teachers then get a personalised feedback report with tips on how to further embed technology in their practice. |
| <p>SELFIE for schools</p> | EU | Sister app, supports whole school planning for digital technology use. |
| <p>School Leader Digital Learning Guide https://tech.ed.gov/publications/digital-learning-guide/school-leader/</p> | Department of Education, United States of America | “This “School Leader Digital Learning Guide” is a resource to help you consider, plan, fund, implement, maintain, and adapt learning programs that meet the unique needs and requirements of the students and teachers that you serve. The guide is oriented toward digital learning principles and practices that enable and empower students and teachers of all abilities and zip codes while advancing student agency (i.e., initiative, intention, and responsibility in pursuing their education), their personalized learning, their mastery of skills and competencies, and protecting their privacy.” |

Annex II: Interview scripts

Experts

This interview is part of the European Project **ePRI4ALL**, which objective is to launch an innovative training program to guide the pedagogical development and digital competencies (use of digital tools, including OERs) of primary school principals and managers. In this way, it is intended to improve skills in areas such as inclusive, digital and intercultural pedagogy, with a special focus on vulnerable students, strengthening the professional development of the directors at all times. For this reason, this interview pursues to know your point of view on digital education's role in the school and the necessary skills and training required by the school principals to foster the use of digital education in an inclusive way in their work centres.

In order to facilitate the subsequent analysis of the information provided, we request your **consent to record the interview**. In any case, the interview will not be made public and the information will be treated confidentially and anonymously. You may at any time retract the interview, leave the interview or request that the recording be deleted

THEMATIC AREA 1. PROFESSIONAL EXPERIENCE

1. Please, tell us about your professional experience related to:
 - a) Management of a Primary School
 - b) The role of digital skills in school (management, teachers, families)
 - c) The inclusion of students from disadvantaged groups (low income, minorities and other vulnerable groups)

THEMATIC AREA 2. DIGITAL EDUCATION'S ROLE IN SCHOOL

2. From your point of view, what role should digital education play in schools today and in the near future?
3. How do you think socio-economic and cultural diversity should be incorporated into digital education?

THEMATIC AREA 3. TRAINING NEEDS ARISING FROM THE COVID-19 PANDEMIC

4. What were the main gaps in the infrastructure for digital/online education in primary schools to cope with the pandemic?
5. Do you consider that these shortcomings have been or are being corrected? How?
6. What were the main difficulties (aside from those of infrastructure) of Primary Schools to incorporate digital/online education to face the pandemic?
 - o For teacher communication and coordination

- Fort teachers and teaching adequacy
 - For pupils
 - For families
7. Can you share with us any examples/good practices of digital education application according to your experience and area of expertise?" inclusion of disadvantaged groups (lack of resources, minorities and other vulnerable groups)?
- d) What will remain from the pandemic concerning digital literacy and inclusion of disadvantaged groups (low income, minorities and other vulnerable groups)?
8. How has the attitude towards digital education on the part of education authorities, teachers and families changed as a result of the pandemic?

THEMATIC AREA 4. ACTIONS TO PROMOTE DIGITAL EDUCATION AT SCHOOL

9. What main lines of action do you think primary education should address to meet the challenges of digital education?
10. How could the **education administration** promote digital education in relation to:?
- Their teachers, especially the older ones
 - Pupils, especially those from vulnerable groups (low resources, other cultures...)
 - Families who need help to support their children in the use of digital tools and distance learning
11. How could the **school principal and management team** promote digital education concerning:?
- Their teaching staff, especially the older ones
 - Their pupils, especially those from vulnerable groups (lack of resources, other cultures...)
 - The pupils' families, who need help to support their children in the use of digital tools and distance learning

THEMATIC AREA 5. SCHOOL PRINCIPALS' TRAINING

12. If you had to design a training course for school principals in intercultural and inclusive education in a digital context, what contents would it be essential to include?
13. What do you consider could be the most appropriate course format to reach a significant number of school principals?

Principals

This interview is part of the European Project **ePRI4ALL**, which objective is to launch an innovative training program to guide the pedagogical development and digital competencies (use of digital tools, including Open Educational Resources OERs) of primary school principals and managers. In this way, it is intended to improve skills in areas such as inclusive, digital and intercultural pedagogy, with a special focus on vulnerable students, strengthening the professional development of the directors at all times. For this reason, this interview pursues to know your point of view and personal experiences related to the challenges, necessary skills and training required in their daily work.

In order to facilitate the subsequent analysis of the information provided, we request your **consent to record the interview**. In any case, the interview will not be made public and the information will be treated confidentially and anonymously. You may at any time retract the interview, leave the interview or request that the recording to be deleted.

THEMATIC AREA 1. OVERALL PROFESSIONAL EXPERIENCE

1. Could you describe your experience working in the educational sector?
 - a. How long have you been working as a teacher?
 - b. How long have you been working as a school principal? Has it always been in the same school?
 - c. Could you briefly describe what positions of responsibility in educational management and as a teacher you have held throughout your career?
 - d. Have you ever worked in schools with disadvantaged populations (low socioeconomic level, immigrant population, refugees, ethnic minorities, etc.)?
2. How would you describe the socioeconomic context or the situation of the families in your current school? Is there a lot of diversity in the centre?

THEMATIC AREA 2. PRIMARY SCHOOLS PRINCIPALS' TRAINING

Thematic Area 2.1. Specific training regarding digital and distance education skills for primary school principals

3. Can you describe what kind of training have you received (if any) to become a school principal, regarding: ?

- a. Digital skills (for management and organization of the school, leadership and governance practices, professional development and collaboration, networking and social interaction)
 - b. Digital distance education (in relation to teaching and learning processes, content and CV, and evaluation processes)
 - c. Training on interculturality or management of cultural diversity concerning students and families of foreign origin and/or in a vulnerable situation? (*for example, motivating their participation in the school*)
4. What do you think are the skills that management teams should improve to favour the inclusion of vulnerable pupils and families?
 5. As a result of the COVID-19 pandemic situation, have you received any specific training or specific instructions to manage the situation? Could you describe it?

Thematic Area 2.2. General training received

6. What kind of training on digital skills did teachers receive (if any)? Which institutions did they provide such training? Did the training include organizational digital skills or digital pedagogical skills? (designing materials/online educational platforms/forms of accompaniment and evaluation, etc.)
7. What kind of training on inclusive education did teachers receive (if any)? Did it contemplate interculturality? Which institutions did they provide such training?

THEMATIC AREA 3. TRAINING NEEDS IN DIGITAL RESOURCES

Thematic Area 3.1. Communication / Teachers relationship

8. How did you communicate with teachers before the pandemic? Did you use digital tools? Which ones? How did you change those tools during the pandemic? To what extent do these changes hold today?
9. What training needs do you consider necessary for teachers with a view to communication tools?

Thematic Area 3.2. Teaching with digital media

10. Do you think the school's digital technical means were sufficient to cope with the pandemic? Which digital technical means would have been necessary?
11. To what extent is the teaching staff/school prepared for digital teaching?
12. Do you think that teachers are currently better equipped on an individual level?

13. How has the use of digital resources changed after the pandemic?
 - a. Have digital tools been used to encourage collaborative work among students? Which ones?
 - b. How have the special needs of students been taken into consideration when creating/selecting these resources: socio-economic level, difficulty with the language, vulnerable family context, accessibility to digital resources, etc.? Describe any good practice that you know in this regard (in your centre or another).
14. What essential training needs are lacking in this field?

Thematic Area 3.3. Student assessment

15. What has changed in the students' assessment after the introduction of digital education during the pandemic? How are the needs and particularities of the students taken into account to adapt the digital assessment strategies and resources?
16. What strategies have been developed to overcome the assessment difficulties encountered with these students? Which ones have worked and which ones remain? Describe any good practice that you know of in this regard (in your centre or another).
17. What were the main difficulties and barriers? What essential training needs are lacking in this field?

Thematic Area 3.4. Families

18. How did you communicate with families before the pandemic? Did you use digital tools? Which ones? How did you change those tools during the pandemic? To what extent do these changes hold today?
19. Please, describe strategies developed to overcome communication difficulties encountered with families. Which ones have worked, and which ones remain? Describe any good practice that you know in this regard (in your centre or another).
20. What were the biggest gaps in digital media (devices and software) detected in the families? What particular needs have vulnerable families presented regarding digital education?

THEMATIC AREA 4. CHALLENGES AND TRAINING NEEDS ARISING FROM THE PANDEMIC

21. What are the lessons learned during the pandemics regarding digital education?
 - a. Do you think the school is now better equipped to face online or digital education than before the pandemics?

- b. Has your opinion about online education changed since the experience produced by COVID-19? Could you tell us what has changed?
22. If you had to design a training program in inclusive intercultural distance education, what dimensions should it consider so that it would be really useful to improve the training that is currently offered?
23. Could you describe any good training practice in digital skills and inclusive education and interculturality?
24. Which would be the better way to deliver the training to teachers? Through what kind of courses? Would video games be well accepted? What kind of video game could be used?

Before ending the interview, do you want to add any information that you consider relevant to the topic addressed and not mentioned during the interview?