Guidance and Learning
App for Adult Digital Education

Guidance and Learning App for Adult Digital Education – GLAD

Theoretical and practical framework of adult education and digital mediation for parents and adult educators (O1)

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Introduction

The GLAD - Guidance and Learning App for Adult Digital Education project aims to empower adults and adult carers in terms of digital education of children, creating a safe pattern of training for parents that focuses on the relation between parents and children in digital technology usage, defining an overall framework of education to enhance the possibilities given by ICT and creating an app that can be used as a space where ready-to-go suggestion materials can be found/accessed according to different everyday life situations.

The Desk Research Report describes digital needs, channels, media, and skills that the target groups (parents and trainers) should possess for adequate functioning in the area of digital technologies. The report is divided into two parts. The first part includes theoretical background connected with ICT (definitions of digital skills/competences, profile of digital competences, short information about national systems for digital skills development, description of parental skills connected with digital technologies usage). The second part contains result of qualitative and quantitative research conducted in a group of parents and adult educators. The result of these analyses is the creation of a new digital competence profile for parents and adult educators.

I. Theoretical background

Theoretical background and most common definitions of digital skills/competences

Nowadays digital competences and digital skills are very crucial terms. Digital competences are treated as one of the 8 key competences for Lifelong Learning by the European Union. They are related to many of the 21st century skills which should be acquired by all citizens, to ensure their active participation in society and economy. (Ferrari, 2013). They may be defined in various ways. Digital competence involves the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It includes information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), safety

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(including digital well-being and competences related to cybersecurity), intellectual property related questions, problem solving and critical thinking (Recommendation of the European Parliament and of the Council, 2006). Digital competence is a combination of knowledge, skills and attitudes with regards to the use of technology to perform tasks, solve problems, communicate, manage information, collaborate, as well as to create and share content effectively, appropriately, securely, critically, creatively, independently and ethically (Skov, 2016). Digital skills are also important because of being a fundamental precondition of children's successful engagement with the world through the internet: they are relevant for young people's participation in society, education, employment and their general well-being (Machackova, Mascheroni, Dedkova, Staksrud, Ólafsson, Livingstone, and Hasebrink, 2020). Digital competence, sometimes abbreviated to DigComp, is a transversal competence (Ferrari 2013). The European Digital Competence Framework, offers a tool to improve citizens' digital competence. Today, being digitally competent means that people need to have competences in all the five areas of the following DigComp (Carretero, Vuorikari and Yves, 2017):

CA 1: Information and data literacy

1. Browsing, searching and filtering data, information and digital content
2. Evaluating data, information and digital content
3. Managing Data, information and digital content.

CA 2: Communication and collaboration

1. Interacting through digital technologies
2. Sharing through digital technologies
3. Engaging in citizenship through digital technologies
4. Collaborating through digital technologies
5. Netiquette
6. Managing digital identity

CA 3: Digital Content Creation

1. Developing digital content
2. Integrating and re-elaborating digital content
3. Copyright and licences
4. Programming

CA 4: Safety

1. Protecting devices

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2. Protecting personal data and privacy
3. Protecting health and well-being
4. Protecting the environment

CA 5: Problem-Solving

1. Solving technical problems
2. Identifying needs and technological responses
3. Using digital technologies creatively
4. Identifying digital competence gaps

Definitions of key digital skills that should be developed and improved through training for adults

DigComp contains a detailed description of all the specific competitions which are included in five created dimensions (Carretero, Vuorikari, and Yves, 2017). The first area, information and data literacy includes three aspects: 1) browsing, searching and filtering data, information and digital content; identifying, explaining and responding to information needs, finding data and content through simple search in digital environments, accessing data and identifying simple personal search strategies; 2) evaluating data, information and digital content; detecting the credibility and reliability of sources of data and performing analysis and comparisons of it; Carrying out evaluations of the reliability and credibility of different sources of data and critically assessing them; creating solutions to complex problems with limited definitions that are related to analyzing the sources; 3) Managing data, information and digital content as: identifying, organising, storing and retrieving data in a structured environment, selecting data, information, and content to organise and store it in a routine way, adapting the management of information and data for the most appropriate retrieval and storage and integrating knowledge to contribute to professional practices in managing data.

The second area, communication and collaboration is composed of: 1) Interacting through digital technologies: selecting digital technologies and interacting with them, identifying appropriate communication means, performing routine interaction with digital technologies and selecting appropriate digital communications, adapting most appropriate communication means for given contexts and proposing new ideas and processes to the field; 2) Sharing through digital technologies: recognising, selecting appropriate digital

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technologies to share data, information and manipulate it, explaining how to act as an intermediary for sharing information and illustrate referencing and attribution practices. 3) Engaging in citizenship through digital technologies: identifying and selecting digital services to participate in society and to empower oneself to participate in society, proposing different digital service to participate in society and vary their use. 4) Collaborating through digital technologies: selecting digital tools and technologies for collaborative processes while also choosing the most appropriate tools for co-constructing and co- creating data 5) Netiquette: differentiating simple behavioural norms and know-how while using digital technologies and interacting in digital environments while being able to discuss them as well. 6) Managing digital identity: identifying and discriminating a range of well-defined digital identities, explaining ways to protect reputations online and describing data produced using digital tools.

The third competence area describes Digital Content Creation and includes such specific dimensions as: 1) Developing digital content: identifying and indicating ways to create and edit content and choose how to express oneself through digital means. 2) Integrating and re-elaborating digital content: selecting and explaining ways to modify, refine and improve items of new content and information to create new and original ones. 3) Copyright and licences: Identifying and indicating rules of copyrights and licenses that apply to data, digital information and content. 4) Programming: listing instructions for a computing system to solve a simple problem and operate a computer system for solving a different problem or perform different tasks.

The forth competence area is called safety and includes four aspects: 1) Protecting devices: indicating and organising ways to protect my devices and digital content and differentiating risks and threats in digital environments, selecting safety and security measures and explaining ways with regard to reliability and privacy. 2) Protecting personal data and privacy: selecting and explaining ways to protect personal data and privacy in digital environments, discussing ways to use and share personally identifiable information while protecting myself and others from damage and indicating privacy policy statement. 3) Protecting health and well-being: differentiating ways to avoid health risks and threats and protecting oneself from possible dangers in digital environments; identifying and discussing digital technologies for social well-being and inclusion. 4) Protecting the environment - recognising environmental impacts of digital technologies and their use.

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Lastly, the fifth competence area refers to problem solving and includes following aspects: 1) Solving technical problems: identifying and indicating technical problems when operating devices and using digital environments and selecting solutions to them. 2) Identifying needs and technological responses: identifying and indicating needs, while also recognising and selecting digital tools and possible technological responses to solve those needs. 3) Using digital technologies creatively: identifying and selecting digital tools and technologies that can be used to provide knowledge and create innovative processes and products, engaging individually and collectively in some cognitive processing to understand and resolve conceptual problems in digital environments. 4) Identifying digital competence gaps: recognising where my own digital competence needs to be improved or updated and seeking opportunities for self-development.

Another interesting attempt at the typology of digital competences is the one proposed by Van Laar, van Deursen, van Dijk, and de Haan, (2017). Based on the results of systematic review, they prepared a distinction between the core digital skills and the contextual digital skills. The core skills are fundamental for performing tasks that are necessary in a broad range of occupations. Contextual skills are those skills that are required to take advantage of the core skills and, therefore, must be connected to such core skills. Core skills include the following competences:

a) Technical - The skills to use (mobile) devices and applications to accomplish practical tasks and recognize specific online environments to navigate and maintain orientation. Key components: ICT knowledge: understand the characteristics of (mobile) devices or applications; ICT usage: operate basic (mobile) application operations and access resources for everyday use; Navigation: avoid losing orientation when navigating online.

b) Information management - The skills to use ICT to efficiently search, select, and organize information to make informed decisions about the most suitable sources of information for a given task. Key components: Define: use ICT to formulate a research statement to facilitate the search for information; Access: use ICT to find and retrieve information from a variety of online sources. Evaluate: use ICT to judge the usefulness and sufficiency of information for a specific purpose; Manage: use ICT to organize information so as to be able to find it later.

c) Communication - the skills to use ICT to transmit information to others, ensuring that the meaning is expressed effectively. Key components: Transmitting

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information: use ICT to communicate information and ideas effectively to multiple audiences using a variety of media and online formats;

d) Collaboration - the skills to use ICT to develop a social network and work in a team to exchange information, negotiate agreements and make decisions with mutual respect for each other towards achieving a common goal. Key components: Interactive communication - generate meaning through exchanges using a range of contemporary ICT tools. Participation in discussions: use ICT to share ideas (e.g. on online platforms).

e) Creativity - the skills to use ICT to generate new or previously unknown ideas, or treat familiar ideas in a new way and transform such ideas into a product, service or process that is recognized as novel within a particular domain. Key components: Content creation: use ICT to generate ideas or develop new ways of doing things.

f) Critical thinking - the skills to use ICT to make informed judgements and choices about obtained information and communication using reflective reasoning and sufficient evidence to support the claims. Key components: Clarification - use ICT to ask and answer questions of clarification related to the problem; Assessment - use ICT to judge the suitability of a source for a given problem; Justification: use ICT to invoke arguments for claims based upon their consistency with other knowledge claims (e.g. personal, memory, testimony, coherence, rationality, replication); Linking ideas - use ICT to link facts, ideas and notions; Novelty - use ICT to suggest new ideas for discussion.

g) Problem solving - the skills to use ICT to cognitively process and understand a problem or a situation in combination with the active use of knowledge to find a solution to a problem. Key components: Knowledge acquisition: use ICT to acquire, implicit and/or explicit knowledge about the problem; Knowledge application - use ICT to apply implicit and/or explicit knowledge about the problem to find a solution.

In contrast, contextual competences are as follows:

a) Ethical awareness - the skills to behave in a socially responsible way, demonstrating awareness and knowledge of legal and ethical aspects when using ICT. Key components: ICT responsible use: decide about the legal, ethical and cultural limits of personally and socially responsible use of ICT, by understanding potential risks that exist on the Internet when using ICT; ICT social impact: understand, analyze and evaluate the impact of ICT in social, economic and cultural contexts when using ICT.

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b) Cultural awareness - the skills to show cultural understanding and respect other cultures when using ICT. Key components: Cross-cultural communication: attitudes towards online communication and collaboration experiences with people from different cultures when using ICT.

c) Flexibility - the skills to adapt one's thinking, attitude or behavior to changing ICT environments. Key components: Adapting to frequent and uncertain situations: attitude towards modifying one's thinking, attitudes, or behaviors to be better suited to current or future ICT environments.

d) Self-direction - the skills to set goals for yourself and manage progression toward reaching those goals in order to assess your own progress when using ICT. Key components: Goal setting - state learning or time goals when using ICT; Control: willingness of individuals to take control of their own learning when using ICT; Initiative - proactively take steps toward decisions and/or actions when using ICT. - Monitor progress: assess whether previously-set goals have been achieved when using ICT.

e) Lifelong learning - the skills to constantly explore new opportunities when using ICT that can be integrated into an environment to continually improve one's capabilities. Key components: Knowledge creation efficacy use ICT to create useful knowledge individually.

National system for digital skills development among adults in Cyprus, Italy, Spain, Poland and Romania

An analysis of the literature on the adult education system in five countries (Cyprus, Italy, Spain, Poland and Romania) which participate in the project, indicates the lack of systemic solutions in the area of digital competence development. Individual countries have certain guidelines and documents on this issue. However, these guidelines are not systematically implemented. A good example of such claim may be: The Strategy for the Digital Agenda of Romania 2020; Digital Strategy for Cyprus. In the mentioned countries, the leading documents in this regard are the recommendations of the European Union.

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Parental skills connected with digital technologies that should be developed and improved through training for adults

Adults are the first teachers of children. It depends on them what skills young people will acquire and how they will use them. Adults also play an important role in acquiring digital competences and pointing to threats resulting from this area. The effective transfer of knowledge in this area is related not only to the possession of specific digital competences by adults, but also to having specific parental skills. According to literature review it is possible to point out the following postulates describing relation between parents and children in the area of digital technologies (Brown, 2019):

- Observing and listening with attention and understanding;
- Honesty and transparency;
- Problem-solving;
- Respect for oneself, others, and property.

In general, parenting skills connected with digital technologies should be analysed in three aspects of digital skills (ParentINFO, 2018):

1. Technical Literacy - understanding computers and possessing the technical skills to use them;

2. Media Literacy - understanding the difference between different platforms, e.g.: that Twitter broadcasts to anyone, for example, whereas on Instagram you can control who sees your postings;

3. Social Literacy - understanding how people behave online and what you should expect of others.

Parents play a major role in the use of digital technology by young children (Chaudron, Gioia and Gemo, 2017). Their parenting styles and choice of mediation strategies depend on their views towards technology (positive, negative, balanced). Livingstone & Helsper (2008) identified four factors that characterised parental styles of mediation of the internet labelled as (1) active co-use, (2) restrictions of time and content, (3) technical restrictions, and (4) monitoring. The way parents regulate their children's access to and use of digital media varies consistently depending on parents' education, socioeconomic status and familiarity with the

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internet and digital technologies. It suggests that effective use of parenting skills in the area of digital technologies involves not only educational skills but also parents' digital skills .

Key trainer's, adult educator's competences necessary for conducting effective trainings in the area of parental skills connected with the usage of digital technology

The development of parental skills is a multi-stage process and can be carried out individually, but also during dedicated training. Effective training is not only the result of its content, but also a behaviour of competent trainer with specific features and skills. The perfect trainer is a combination of interpersonal skills and specific knowledge. Redecker and Yves, (2017) in the European Framework for the Digital Competence of Educators propose the profile of an adult trainer in which competences are organised in six domains:

AREA 1: PROFESSIONAL ENGAGEMENT - ***Using digital technologies for communication, collaboration and professional development.***

1.1 Organisational communication

To use digital technologies to enhance organisational communication with learners, parents and third parties. To contribute to developing and improving organisational communication strategies collaboratively.

1.2 Professional collaboration

To use digital technologies to engage in collaboration with other educators, share and exchange knowledge and experiences and innovate pedagogic practices collaboratively.

1.3 Reflective practice

To individually and collectively reflect on, critically assess and actively develop one's own digital pedagogical practice and that of one's educational community.

1.4 Digital Continuous Professional Development (CPD)

To use digital sources and resources for continuous professional development.

AREA 2: DIGITAL RESOURCES - ***Sourcing, creating and sharing digital resources.***

2.1 Selecting digital resources

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To identify, assess and select digital resources for teaching and learning. To consider the specific learning objective, context, pedagogical approach, and learner group, while selecting digital resources and planning their use.

2.2 Creating and modifying digital resources

To modify and build on existing openly-licensed resources and other resources where this is permitted. To create or co-create new digital educational resources. To consider the specific learning objective, context, pedagogical approach, and learner group, while designing digital resources and planning their use.

2.3 Managing, protecting and sharing digital resources

To organise digital content and make it available to learners, parents and other educators. To effectively protect sensitive digital content. To respect and correctly apply privacy and copyright rules. To understand the use and creation of open licenses and open educational resources, including their proper attribution.

AREA 3: TEACHING AND LEARNING - ***Managing and orchestrating the use of digital technologies in teaching and learning.***

3.1 Teaching

To plan for and implement digital devices and resources in the teaching process so as to enhance the effectiveness of teaching interventions. To appropriately manage and orchestrate digital teaching interventions. To experiment with and develop new formats and pedagogical methods for instruction.

3.2 Guidance

To use digital technologies and services to enhance the interaction with learners, individually and collectively, within and outside the learning session. To use digital technologies to offer timely and targeted guidance and assistance. To experiment with and develop new forms and formats for offering guidance and support.

3.3 Collaborative learning

To use digital technologies to foster and enhance learners' collaboration. To enable learners to use digital technologies as part of collaborative assignments, as a means of enhancing communication, collaboration and collaborative knowledge creation.

3.4 Self-regulated learning

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To use digital technologies to support self-regulated learning processes, i.e. to enable learners to plan, monitor and reflect on their own learning, provide evidence of progress, share insights and come up with creative solutions.

AREA 4: ASSESSMENT - ***Using digital technologies and strategies to enhance assessment***.

4.1 Assessment strategies

To use digital technologies for formative and summative assessment. To enhance the diversity and suitability of assessment formats and approaches.

4.2 Analysing evidence

To generate, select, analyse critically and interpret digital evidence on learners' activity, performance and progress, in order to inform teaching and learning.

4.3 Feedback and planning

To use digital technologies to provide targeted and timely feedback to learners. To adapt teaching strategies and to provide targeted support, based on the evidence generated by the digital technologies used. To enable learners and parents to understand the evidence provided by digital technologies and use it for decision-making.

AREA 5: EMPOWERING LEARNERS - ***Using digital technologies to enhance inclusion, personalisation and learners' active engagement***.

5.1 Accessibility and inclusion

To ensure accessibility to learning resources and activities, for all learners, including those with special needs. To consider and respond to learners' (digital) expectations, abilities, uses and misconceptions, as well as contextual, physical or cognitive constraints to their use of digital technologies.

5.2 Differentiation and personalisation

To use digital technologies to address learners' diverse learning needs, by allowing learners to advance at different levels and speeds, and to follow individual learning pathways and objectives.

5.3 Actively engaging learners

To use digital technologies to foster learners' active and creative engagement with a subject matter. To use digital technologies within pedagogic strategies that foster learners'

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transversal skills, deep thinking and creative expression. To open up learning to new, real-world contexts, which involve learners themselves in hands-on activities, scientific investigation or complex problem solving, or in other ways increase learners' active involvement in complex subject matters.

AREA 6: FACILITATING LEARNERS' DIGITAL COMPETENCE - ***Enabling learners to creatively and responsibly use digital technologies for information, communication, content creation, wellbeing and problem-solving.***

6.1 Information and media literacy

To incorporate learning activities, assignments and assessments which require learners to articulate information needs; to find information and resources in digital environments; to organise, process, analyse and interpret information; and to compare and critically evaluate the credibility and reliability of information and its sources.

6.2 Digital communication & collaboration

To incorporate learning activities, assignments and assessments which require learners to effectively and responsibly use digital technologies for communication, collaboration and civic participation.

6.3 Digital content creation

To incorporate learning activities, assignments and assessments which require learners to express themselves through digital means, and to modify and create digital content in different formats. To teach learners how copyright and licenses apply to digital content, how to reference sources and attribute licenses.

6.4. Responsible use

To take measures to ensure learners' physical, psychological and social well-being while using digital technologies. To empower learners to manage risks and use digital technologies safely and responsibly.

6.5 Digital problem solving

To incorporate learning activities, assignments and assessments which require learners to identify and solve technical problems, or to transfer technological knowledge creatively to new situations.

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Examples of the best practices in the field of digital skills development among adults

Name of the project	Description
Connect Digitally, Easily and Simple. Promotion of e-Government and Digital Skills – Cyprus Productivity Centre (Nicosia, Cyprus)	The "Connect Digitally" programme provides free training courses to Cypriot citizens to develop their digital skills and learn how to use E-Government Systems. The courses implement initiatives that allowed the development of digital competencies in adults. The courses provide: • The necessary skills for engaging and using e-Government systems online. • Digital skills with an emphasis on the use of the Internet and its core applications. • Older people training (60+) on how to use Windows, Android and iOS systems and devices. All workshops are provided for free in all cities in Cyprus. A participation certificate is provided to all participants, indicating their attendance to the training programme. A total of 274 training programs and seminars were implemented within the project. The number of participants who successfully completed them is 3,419 so far. Link (Greek only): https://bit.ly/2BAWAjQ
GROW DIGITAL - Cyprus	This is a national coalition led by Dr. Stelios Himonas in collaboration with the Department of Electronic Communications in Cyprus. Coalition: professional communities, public institutions, private companies and NGOs. • Aim: to improve participants' digital skills and address anticipated mismatches between ICT necessities and work vacancies.

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	• Action plan: 3 years divided into 3 subcategories (education and training, certification, awareness) Link: https://ec.europa.eu/digital-single-market/en/news/cyprus-launches-national-coalition-digital-skills-and-jobs AND www.digitaljobs.cyprus-digitalchampion.gov.cy/el/page/home
Google Digital Training	Google Digital Training is the way to get more digital competencies (mainly job-oriented). Google offers a free certified training mainly in the area of digital communication and marketing, still connected to the basic area of communication competencies. Link: https://learndigital.withgoogle.com/digitaltraining/courses/
CyL Digital - Spain	CyL Digital online training for parents and educators: CyL offers face-to-face and distance training for parents and educators on topics related to new technologies. Link: www.cyldigital.es
ECDL Romania	ECDL Romania is an organization that that trains persons in digital skills. ECDL/ ICDL is the world largest IT certification program for basic computer skills for end-users and it is recognized worldwide in over 100 countries. The ECDL/ ICDL certificates offer their holders the guarantee of having the necessary basic IT knowledge for assuming an active role in e-Society. Acquiring the ECDL/ ICDL certificates, may increase one chances for finding a better job and efficiently use a computer, for both your personal and professional life. Link: https://www.ecdl.ro/acasa
Future Learn	Free online courses are available on major MOOC platforms, for instance on Future Learn platform courses on basic and advanced digital competences are displayed in a page, and categorised by length and study hours/week and users rating: https://www.futurelearn.com/career-advice/grow-your-digital-skills

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Digital Competences Development System	DCDS, the Digital Competences Development System, was developed to help improve digital competences and validate them on the basis of European competence frameworks. DCDS supports adults/young adults in self-assessing digital competences and identifying shortages and gaps. It brings adults/young adults in contact with tutors and training centres to facilitate students in closing the gaps and improving competence profile. It offers access to blended courses, that combine face to face training and use of online training platform. It provides a mechanism that validates achievements using on online badges, which adults can download in their computer and add to their profile. *Link: https://digitalcompetences.eu*
NASK Academy - Poland	The NASK Academy is a department of the Scientific and Academic Computer Network in Poland, which conducts training and education activities for adults and children. It offers courses and handbooks in area of digital skills and safe use of new technologies. One of such initiatives is the project called "Become your child's friend" addressed to parents and guardians. Its aim is to encourage them to actively participate in the Internet life of their children or charges, learn about their interests and the virtual community. Link: https://akademia.nask.pl/

Examples of the best practices in the field of developing trainers/adult educators skills connected with training delivery and digital technology use among children

Name of the project	**Description**
Breaking Barriers- Embracing Literacy through Digital Media	The Pancyprian cultural and educational association cooperated to support adult training through digital practices • Aims: the exchange of best practices on basic skills, and the formulations of education through digital media. The target group age group is 25-65. • Participants: from UK, Italy, Cyprus, Poland, Malta, Norway. Netherlands, FYROM • Activities: organisation of workshops, research on digital media, team building, improving the skills of educators. ○ Furthermore, the production of a digital media plan to be used in

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	lessons for adults with additional guidance on methods of teaching. Link: http://www.breakingbarriers.eu/index.php/en/
Instituto Nacional de Cibersecuridad - Spain	Interactive site for arranging educative itineraries on cybersecurity for professionals (including education field workers and educators). Link: https://itinerarios.incibe.es/
Mobile Academy	The Mobile Academy was founded due to its founders' believes that the present and future is mobile their desire to offer training and consulting for creating great mobile experiences. They offer their services to adults as well as children. Its team of trainers consists of industry professionals who enjoy sharing their knowledge and experience. The company's aim is to help tech, business and design professionals learn to create great mobile experiences. The company facilitates the following activities: - iOS and Android Essentials courses - Full-day workshops on Tech, Product, UX, Marketing - Meetups on Mobile growth, Mobile dev and Mobile case studies Mobile Tech Report – overview of the Mobile Dev landscape
Cibercorresponsales	Cibercorresponsales is a platform for young journalism composed of public entities and private NGOs. It has online space for youth articles as well as plenty of resources and guides for a safe use of internet and media by minors, teachers and parents. Link: https://www.cibercorresponsales.org/pages/seccion-de-recursos
Behavioral addiction	In Poland, many activities related to the proper use of new technologies are promoted by Fundusz Rozwiązywania Problemów Hazardowych (financed by the Ministry of Health). An example of one such initiative is the behavioral addiction portal. It contains a range of information and advices for parents/teachers who face with the problem of inappropriate use of the internet/digital technologies by their children or pupils. Link: https://www.uzaleznieniabehawioralne.pl/

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The Empowering Children Foundation	The Empowering Children Foundation (Poland) works towards making sure that all children have a safe childhood and are treated with respect for their dignity, as full-fledged human beings. This foundation offers educational platform for professionals which include a lot of e-learning courses for teachers and trainers i.e. Keeping children and young people safe online; School safety standards on the Internet; Safety of children and young people on the Internet "Safely Here and There". A course for parents and professionals. Link: https://www.edukacja.fdds.pl/kursy-e-learning
National Plan for Digital Schools: the Good School - Italy	"The 'Piano Nazionale per la Scuola Digitale: la Buona Scuola' ('National Plan for Digital Schools: the Good School'), launched in 2015 by the Ministry of Education, University and Research (MIUR), encourages the adoption of new technologies in the pre-school context in order to support children's learning. More specifically, the teaching of coding is extended to pre-schools and a new teacher profile will be trained and employed also in the pre-school context, namely the so-called 'animatore digitale' (the 'digital trainer')."

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II. Parents' and adult educators' knowledge and expectations related to the application and trainings concerning digital technologies

As part of the project activities, surveys were conducted in all partner countries - in Cyprus, Italy, Spain, Romania and Poland. The research concerns the knowledge and expectations related to the application and trainings concerning digital technologies used by parents and children. The research was carried out using two online questionnaires (parents and trainers/educators) and individual in-depth interviews (parents with children using digital technologies). The results collected during the research are presented in detail in the National Reports. The most important research findings are presented below:

Survey research on parents and individual interviews with parents

14 parents from Cyprus, 14 parents from Italy, 18 parents from Spain, 30 parents from Poland and 21 parents from Romania took part in the research. A total of 97 parents took part in the research - 77 women and 20 men. The respondents ranged in age from 26 to 54. The average age of the respondents was 39.01 years.

	Yes	No
Do you usually monitor the time they spend using those technologies?	81.1%, 77	18.9%, 18
Do your children have free access to devices?	32.6%, 31	67.4%, 64
Have you installed or do you apply filters to devices to limit the access to digital contents to your kids?	34.7%, 33	65.3%, 62
Do you sit with them while they use devices?	57.9%, 55	42.1%, 40

The parents rate their knowledge of technology at an average of 3.85 (min. 1, max. 5), on a scale 1-5. The surveyed parents have also indicated the actions they take in relation to the use of technology by their children:

	CY	**IT**	**ES**	**PL**	**RO**
I set time limits on devices use	21%, 3	28.6%, 4	61.1%, 11	13.8%, 4	71.4%, 15
I let them use devices unsupervised	79%, 11	14.3%, 2	16.7%, 3	10.3%, 3	19.0%, 4

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They normally use devices to fill the time me and my partner cannot spend with them	7%, 1	7.1%, 1	5.6%, 1	17.2%, 5	9.5%, 2
They get to use devices as a reward for a good behaviour	29%, 4	78.7%, 11	22.2%, 4	13.8%, 4	4.8%, 1
I usually forbid them to use devices when they have been naughty	71%, 10	21.3%, 3	16.7 %, 3	41.4%, 12	42.9%, 9
I let them bring with them a smartphone every time they go out	0%, 0	0%, 0	16.7 %, 3	13.8%, 4	0%, 0
I experiment with my children educational games or I take some time to play electronic games with them;	21%, 3	42.9%, 6	22.2%, 4	41.4%, 12	23.8%, 5
I'll limit the use of technology as much as possible or at least until getting a little bit older.	57%, 8	14.3%, 2	44.4%, 8	62.1%, 18	28.6%, 6

The respondents mention most often the following threats related to the use of digital technologies:

- Access to inappropriate content, pornography
- Violence, cyberbullying
- Addictions
- Limiting relationships with peers (physical/social isolation due to lack of guidance or lack of interaction with other children)
- Risk of becoming solely consumers and not makers of contents/activities
- Decay in abilities such as attention, vocabulary, interest for other activities, imagination, patience
- Physical harm includes harm from radiation, pain in the neck, bad posture and vision problems (decay of physical attributes such as eyesight).

The respondents mention most often the following parenting skills that parents should have in order to support their children in the proper use of digital technologies and protect them from potential threats:

- Good digital skills and keeping up to date with developments in the field of technology, interesting and useful online topics and threats
- Ability to communicate with the child
- Knowledge on how to use parental controls
- Assertiveness, setting boundaries, consistency
- Ability to manage the time and the purposeful usage of technologies

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- Common sense due to using the device
- Patience
- Empathy.

They have also described the way in which they use technology:

Do those question describe yourself or the use of technology you do with your children?	Mean (M) (scale 1-6)
I normally read newspapers online from different sites	4,26
I normally get most of the information from social media and/or WhatsApp groups	3,17
I usually believe what other parents say and I suspect what experts say	2,37
I normally check where my children get the information from	4,89
I normally encourage my child to be curious and look for more information every time/ when possible	4,80
You check twice the social media comments you write not to harm anyone	4,82
Social media comments can bring legal consequences	5,32
I'm comfortable publishing pictures of my children on social media	1,76
I think that leaving my personal data online makes it easier for people to contact me	2,39
All my passwords are saved in a secured place (an agenda, or any virtual place hard to access)	4,27
I use passwords that are related to my birthday or to the birthday/ names of my partner/ my children/ myself	2,14
A set time on the screen is crucial to guarantee a healthy use of technology	4,49
It is fair to extend the time restrictions every time my children behaved or achieved a good result at school	2,21
I think that it is okay that if I am busy, I allow my child to have more time on a device	2,12
Time restrictions are ideal to teach lessons to children when they have been naughty or they have not achieved a good result at school	2,92
Laughing at somebody online is as derogatory as doing it in real life	5,46
On every device I have installed apps or I have adopted simple tools to avoid that the child can connect to undesired pages/ communities	3,82
I'm aware of offline and online services to monitor and report cyberbullying	4,43
I always take my time to discuss what my child/children do online and talk about it	4,53
I am in touch with the school to make sure enough measures are taken	4,30
I normally donate for charity campaign online	2,90
I normally share contents related to causes or news I think are important	3,93
I understand the use of stickers, emojis and gifs	4,70
I normally post pictures of my children without prejudice	1,99
I normally cover my children's face with different strategies (e.g. emojis, not showing their face, stickers etc.,) before posting them on social media	3,15
I normally use popular hashtags to accompany pictures of my children on social media	1,53

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The respondents enumerated the following digital and parenting skills which they would like to develop:

- parental control and set limits, screen time management
- ability to use modern technologies and search contents online or to detect specific apps
- dealing with cyberbullying
- navigating safely online and keeping children safe online.
- improving relation with kids while using digital technologies
- assertiveness
- solving basic technological problems related to the malfunctioning of technological devices
- mediation and negotiation strategies to have a proper use of technologies.

16 individual in-depth interviews were conducted with parents on the use of digital devices by children. Records of these interviews are included in the National Reports on the conducted research.

As part of these interviews, parents emphasized:

- the necessity to get to know the devices, applications and services used by children
- the need for parental control
- awareness of the dangers awaiting the child on the Internet
- problems with limiting the time of using electronic devices and difficulties with the enforcement of the prescribed time limit
- the need to use the devices appropriately in relation to the child's age and the parents' consent to it
- the value of sharing devices
- the value of family time spent without electronic devices
- the need to provide the child with alternative forms of spending free time, without devices

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11 trainers/educators from Cyprus, 5 trainers/educators from Italy, 10 trainers/educators from Spain, 15 trainers/educators from Poland and 11 trainers/educators from Romania took part in the research. . A total of 52 trainers/educators - 39 women and 12 men took part in the research (1 respondent did not choose the gender). The respondents ranged in age from 22 to 66. The average age of the respondents was 39.72 years. Most of the respondents had higher education (one person - upper secondary).

Respondents enumerated the following digital and parenting skills that are the most important for parents when it comes to supporting their children in using digital tools and deal with everyday problems:

- Ensuring online safety (parental controls, supervision)
- Digital and computer skills
- Using the Internet and critical search of information, apps in relation with the child's learning needs
- Using Instant Messaging and social networks
- Using educational platforms

- Communication, support, understanding, attention for the infant
- Cooperation
- Patience
- Spending time with children/spending time as a family
- Involvement in children's social and school life
- Comprehension and understanding of children's needs
- Mediation skills in the use of technology

The good advice (tips and tricks) to parents who want to use technology with their children in the proper way are as follows:

- Control children
- Establish time frames and rules for using electronic devices (setting clear rules and sticking to them)

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- Gain knowledge about new technologies
- Discover the child's vision of technology together with him
- Take care of data security
- The ICTs/devices in common spaces of the house
- Foster the relationship with the child (the importance of good communication between parents and children, assertive communication to deal with conflicts)
- Take care of other activities
- Be attentive to alarming signs
- Do not automatize the use of technology as a form of reward
- Adapt technologies according to age – there is no one-fits-all solution
- Promote healthy and outdoor lifestyles
- Instil in the child the discipline and the will to learn.

A trainer, who trains parents on effective and safe use of digital technologies and prepares them to help their children use technology smartly should have the following knowledge and skills:

a) In the area of technical aspects of using digital technologies:

- Knowledge of Internet programs, systems and applications (the responsible and safe use of technology; setting time limits and manner of usage limit)
- Ability to use Internet resources
- Ability to take care of privacy, filtering the info through the browsers (Repercussions and consequences of sharing data and principles of data protection)
- Ability to communicate by means of Internet communicators
- Technical skills related to the maintenance of the equipment
- Knowledge regarding the physical influence of the IT devices on the human body

b) In the area of parenting skills:

- Ability to motivate and communicate
- Active listening

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- Ability to compromise and negotiate
- Patience
- Establishing relationships
- Supporting the child's development (Supporting and positive reinforcement)
- Cooperation with the school and support of the child's social development
- Conflict prevention and resolution
- The ability to correctly explain in simple words for the children to understand
- The will and the knowledge on how to ensure oversight, guidance and discipline for the infant
- The ability to keep the child away from online dangers.

c) In the area of adult training methodology:

- Knowledge of active methods of teaching adults, ability to conduct workshops (e.g. non-formal education techniques, role playing and simulations, flipped classroom approach, training methods based on self-experience and own testimonies or life experiences, gamification, teaching methods using visual aids, brainstorming, case studies)
- A training plan based on the hierarchy of the trainees' needs/planning/organisation (being oriented at the need and benefits of using technology)
- Knowledge about the psychology, pedagogy of the child and the family.

d) In the area of trainers' interpersonal and intrapersonal skills

- Clear communication style adapted to recipients and the ability to build relationships (clearly express ideas, verbal and non-verbal communication)
- Active listening, mirroring of feelings
- Organisational and planning skills
- Emotions/feelings management (patience, emotional stability)
- Openness

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- Empathy
- Cooperation
- Understanding, consideration (Perception, observational skills)
- Flexibility
- Trainers' dress code
- Understanding the real training needs of its students.

Respondents from Poland point out the insufficient or expensive offers and little interest from adults in digital skills training, and emphasize an increasingly richer offer of online training courses.

There are very few digital adult training programs in Cyprus and those that do exist have a very limited scope, mostly in relations to office and professional digital competencies. There is a total lack of training in respect of safe and responsible use of social media where children are particularly active and in general about how young people use technology today. The respondents noted that in recent years there has been an emphasis on the development of digital skills in adults, however these are focused on the simple use of a computer and of certain programs and not on the use of today's digital means.

There are not specific programmes for parents or focused on digital mediation in Spain. Those actions or trainings combining digital and parental issues are just focused on concrete topics related to the digital mediation, not to the completely holistic approach, such as online security, data protection, cyberbullying, online risks for minors.

Respondents from Spain have not enumerated any trainings for parents and adults relating to digital skills.

Respondents from Romania do not trust the digitized adult education in Romania and do not think that the situation can be changed easily.

The contents which should be included in a training program to prepare parents to teach their children about safe and effective use of the Internet and digital resources are:

- information on threats in cyberspace and online security (ways to ensure control by adults of children's use of devices, data protection)

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- information on using various platforms and programs (basic guidelines about how to technically use the devices, software or sites they intend to use with children)
- the technical aspects of using the school's online platform
- using the Internet and digital resources
- using Internet media and managing social media
- netiquette (online behaviour on social media)
- conflict management
- ICTs use - negotiation skills (negotiation vs punishment/reward)
- child and family psychology
- children-parents communication skills.

The respondents mentioned the following features of a training application for parents, which supports them in using digital technologies with their children:

- simple, clear, intuitive, easy to use (user-friendly with simple and clear language)
- working with any equipment (no special technical requirements)
- interesting, interactive, in the form of a game, custom quiz development
- graphics, dynamic sections or a visual layout.

The surveyed trainers/educators emphasize the importance of ensuring online safety (parental control) and using devices and programs as parents' skills concerning supporting their children in using digital tools and dealing with everyday problems. They also stress the importance of communication skills, building relationships and organizing free time activities for children without electronic devices, as well as consistency and patience. The respondents suggested that parents should concentrate on the importance of good communication between parents and children, the importance of setting clear rules and sticking to them, encouraging discussion and providing explanations in order to use technology with their children in a proper manner.

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III. Digital Competency Framework for adult educators

The following Digital Competency Framework for adult educators has been proposed based on the conducted analysis desk research and the trainers' research:

I. Technical competences:

- Ability to use computers and modern technologies - the ability to use electronic devices (computer, tablet, smartphone) used to communicate with other people and facilitating access to information and its collection. It also refers to the knowledge of basic operations related to solving simple problems that arise while using such devices.
- Knowledge of programs, applications, services, websites and social media addressed to children and young people - knowledge about the programs, applications and social networks most often used by young people. Ability to use and install them and solve basic problems that may arise while using them. It also refers to the ability to create profiles and accounts that enable active use of information contained in such portals.
- Knowledge of netiquette - knowledge of the rules relating to behaviors that are acceptable on the Internet. The ability to communicate on the Internet in accordance with the rules that apply there.
- Knowledge of the risks associated with the use of digital devices and the Internet - having knowledge about the risks that may arise while using electronic devices and while viewing content published on the Internet. Being aware of such phenomena as: addiction to the Internet or new technologies, cyberbulling, sexting, pathostreaming, FOMO, stalking. The ability to define such phenomena and being aware of the warning signs that may indicate them. Having basic knowledge about what their consequences may be and how to effectively counter them as well as where to find support.
- Knowledge about the responsible and safe use of technology - having knowledge about the applications that protect users while using new technologies and content presented on the Internet and the ability to use them. Knowing how to protect your

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personal data and online privacy. Being aware of the negative consequences of excessive use of the Internet and new technologies.

- Knowledge of parental control programs and being able to use them - having knowledge of programs/ applications that enable parental control over the content accessed by a child on the Internet (including the names of programs, sources from which they can be downloaded, licenses). The ability to install such programs/ applications and configure them in such a way that they can be used to protect the child from inappropriate use of new technologies or content published on the Internet.

II. Competences in the field of psychology and mediation:

- **Knowledge about the psychology, pedagogy of the child and the family**- knowledge in the field of child development psychology, family psychology as well as pedagogy and education, with particular emphasis on the impact of using electronic devices on the emotional, social and intellectual development of a child.

- **Knowledge of the rules and the ability to conduct parent-child mediation -** being aware of the mediation process and the stages that it involves. Knowledge of the principles and benefits of mediation with particular emphasis on the parent-child context. Knowing how to argue and persuade during the mediation process. The ability to identify factors that may hamper the mediation process and how to counteract them.

III. Trainer's competences:

- **Knowledge of active methods of teaching adults** - knowledge of teaching methods such as: non-formal education techniques, role playing and simulations, flipped classroom approach, gamification, teaching methods using visual aids, brainstorming, case studies etc.

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- **Ability to conduct workshops and active-learning-** the ability to conduct workshops with reference to the experience and competences of participants based on active teaching methods, taking into account the principles of andragogy.

- **Communication and active listening** - the ability to clearly formulate a message and thoughts, using appropriate language towards training participants. Knowledge of active listening techniques and the ability to use them.

- **Organizational and planning skills** - the ability to prepare a training and plan all its essential elements, e.g. diagnosing training needs, preparing a schedule, setting training goals, developing training materials, carrying out training evaluation, providing the necessary resources to conduct training.

- **Emotions management** - the ability to identify, name and express one's emotions. The ability to deal with strong emotions and to hold back and delay emotional reactions.

- **Flexibility** - the ability to adapt training methods to group dynamics and to adequately respond to situations arising in the training group.

- **Cooperation** - the ability to encourage cooperation and heighten a sense of security conducive to learning. Creating a good working atmosphere, space for exchanging experiences and sharing thoughts.

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IV. Digital Competency Framework for adult (parents)

The following Digital Competency Framework for adults (parents) has been proposed based on the conducted desk research analysis and parents 'and trainers' research:

I. Technical competences:

- **Basic ability to use digital devices, applications, Internet** - the ability to use electronic devices and applications made available for children by parents and the ability to use the Internet, so as to be able to support a child in their responsible use of the Internet as well as to accompany and spend time with the child. The competences cover also the ability to solve basic technical problems that may arise while using the devices, ICT programs and the Internet.

- **Knowledge of the risks associated with the use of digital devices** - knowledge of the risks associated with the use of digital devices and the use of Internet resources, e.g. cyberbulling, sexting, patostreaming, FOMO, stalking. Knowing their specificity and manifestations as well as being aware of the warning signs and symptoms that may appear in a child facing these risks. Ability to counteract threats resulting from the use of the Internet and ICT tools (e.g. cyberbulling, sexting, pathostreaming, FOMO, stalking) and protecting children against them. Ensuring data protection on the web.

- **Knowledge about programs, games and activities that are currently popular with children** - knowledge about programs and games that a child uses and being up to date with new applications installed by the child. Ability to assess the appropriateness of these applications (their content) for the age of the child.

- **Ability to use programs supporting parental control** - knowledge of parental control programs and the ability to download, install and set them on devices made available to children.

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II. Competences in the field of psychology, mediation and upbringing:

- **Basic knowledge of the psychology of the child** - knowledge about the psychological development of a child and its stages as well as the ability to select electronic devices and applications and the time of their use in compliance with the child's age.

- **Ability to support a child experiencing cyberbullying and other negative effects of using digital devices** - the ability to help a child who has been through negative and painful experiences on the Internet (e.g. cyberbulling, sexting, patostreaming, FOMO, stalking). Knowledge about people and institutions supporting parents in providing psychological help to children in such situations.

- **Ability to set clear rules of using devices** - the ability to adequately assess the time and rules of using devices, taking into account the age of a child, and the ability to clearly and firmly communicate these rules to a child so that they are accepted and respected by the child.

- **Ability to perform mediation** - the ability to have such a conversation with a child which will lead to the resolution of disputable issues related to the use of electronic devices.

- **Ability to organize alternative free time activities (Spending time with children without devices)** - the ability to organize and spend time with a child in an attractive way adequate to the age of the child, without using any electronic devices.

III. Interpersonal competences:

- **Communication** - the ability to communicate clearly and kindly with a child (adjusted to their communication level), listen actively to what the child says and

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show understanding. Ability to express your emotions and read your child's emotions.

- **Fostering relationships and cooperation** - the ability to build relationships with a child based on understanding, kindness, care and respect. The ability to organize activities for spending free time together (parent and child) in an atmosphere of joy and warmheartedness.

- **Assertiveness** - the ability to express one's own judgments, opinions, decisions, principles and emotions respectfully towards a child without violating their boundaries.

- **Consequence** - the ability to persistently stick to the established rules of using electronic devices and the Internet, and to make a child take consequences when they break the rules.

- **Emotions management (patience)** - self-awareness of one's own emotional states and the ability to control one's emotions and express them adequately to the situation and the age of a child. The ability to deal with strong emotions and to hold back and delay emotional reactions.

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VI. Annexes

National desk research reports

Annex I. Desk Research Report from Poland

Annex II. Desk Research Report from Cyprus

Annex III. Desk Research Report from Italy

Annex IV. Desk Research Report from Spain

Annex V. Desk Research Report from Romania

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National field work reports

Annex VI. Field Work Report from Poland

Annex VII. Field Work Report from Cyprus

Annex VIII. Field Work Report from Italy

Annex IX. Field Work Report from Spain

Annex X. Field Work Report from Romania

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