



**Integrating mobile learning and upgrading
teachers' digital skills
A TOOL KIT FOR EFFECTIVE STRATEGIES
IN PRIMARY SCHOOL**

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INTRODUCTION

INTEGRATING MOBILE LEARNING AND UPGRATING TEACHERS' DIGITAL SKILLS: A TOOL KIT FOR EFFECTIVE STRATEGIES IN PRIMARY SCHOOL, with acronym GoDIGITAL is a Strategic Partnerships for School Education project, co-financed by the Erasmus+ Programme Key Action - Cooperation for Innovation and the Exchange of Good Practices.

The project addresses the need in EU policies for high quality teachers who will be able to implement alternative and innovative teaching methods using ICT. It also tackles the need to enhance the uptake of ICT in teaching and learning, to promote stronger coherence between different EU and national transparency and recognition tools, and strengthen the professional profile of the teaching profession.

The GoDIGITAL project proposed the design of a comprehensive and innovative program offered to primary school teachers which will strengthen their profiles and promote digital and mobile learning in primary schools. This way the project gives the tools, which can be used by primary school teachers for improving and validating their digital skills, in order to meet the current trends of the digital era and improve and ensuring better learning outcomes. In this context, the consortium is aiming to promote also the validation of such learning through the OPEN BADGES (OB) system, and strengthen the profile of the teaching profession.

Project aims:

- to design a complete TOOL KIT that will assist teachers to upgrade their digital skills and to assist schools to develop digitally oriented strategies and plans.
- to develop the Digital Competence Framework with benchmarks and indicators against which teachers' practices, knowledge and skills will be assessed and validated through a designed assessment system based on the use of the Open Badge and ePortfolios as a way to introduce transparency, visibility, transferability and validity for the new digital skills acquired.
- to deliver a professional development programme for teachers both on-line and school-based, accompanied with an Educational Pack with adequate teaching material to support their teaching.

Based on the above, the project is in line with the Erasmus+ priorities for promoting school education quality as:

- To strengthen the profile(s) of the teaching professions, including teachers, school leaders and teacher educators, through supporting teachers in adopting collaborative and innovative practices.
- To promote open and innovative methods and pedagogies, participatory governance where appropriate, develop learning materials and tools as well as actions that support the effective use of Information and Communication Technologies (ICTs) in education, training and youth.
- To support schools to offer quality education, to strengthen collaboration among schools and external stakeholders and to promote collaborative and holistic approaches to teaching and learning while improving evaluation and quality assurance.
- To promote recognition as well as transparency and comparability of learning outcomes and to promote innovative solutions for the recognition and supporting the validation of competences acquired through informal, non-formal, digital and open learning – at local, regional, national or European level.

Two are the main target groups:

- the direct target group is primary school teachers who will upgrade their digital competence and use of technology in their teaching methods.
- the indirect target group is primary school students who will benefit from digitally literate teachers.

Other target groups can be the school boards, authorities and policy-makers as through the project were used specific strategies and tools at the local, regional and national level.

Project partners:

Spoleczna Akademia Nauk – Lodz, Poland

Regional Directorate of Primary and Secondary Education of Crete /Periferiaki Diefthinsi Protovathmias Kai Defterovathmias Ekpaidefsis Kritis/ - Heraklion, Greece

Private Institute Emphasys Centre /A & A Emphasys Interactive Solutions Ltd/ – Nicosia, Cyprus

Scuole Paritarie dell'Istituto delle Maestre Pie dell'Addolorata – Roma, Italy

EUni Partners [Sdruzhenie Yuni Partners], Blagoevgrad, Bulgaria

Fundacja Publica Fides /Fundacja Zaufania Spolecznego Publica Fides/ - Lutomiersk, Poland

Transnational implementation of the project will help partner countries towards utilizing EU tools such as the ECVET and mechanisms such as the OPEN BADGE for validation while promoting various Erasmus+ priorities: such as strengthening educators' profiles by developing digital competences and by using open and innovative education embedded in the digital era through creating synergies, digitalizing learning and promoting the use of ICT as a driver for systemic change to increase the quality/ relevance of the education.

All project results can be found on both the project [website](#) and project [e-Learning Platform](#).



Main results of the project:

GoDIGITAL Competence Framework and Syllabus for primary schools and teachers within build indicators and standards against which teachers' competences and schools practices will be assessed (SKILLS AUDIT) and developed further.

GoDIGITAL Assessment and Validation process for digitally literate teachers and schools through the use of Open Badges and e-Portfolios for the assessment, recognition and validation of the digital skills to be acquired.

GoDIGITAL Educational Pack and Kit for teaching and for implementation for teachers, which will include all teaching material, resources, tools etc. to be used for the capacity building programme of the teachers to be digitally literate and upgrade their teaching practices.

GoDIGITAL Interactive Learning Platform (Moodle) which will function as an Open Learning Environment and will be used with various functionalities: e-Library (with resources, on-line tools, useful material), e-Community (teachers will create their profile, upload their work, discuss with others) and an e-Academy (with on-line courses to attend). It will also incorporate, the e-Assessment with the process identified (Skills Audit, mentoring, peer assessment, external assessment etc.)

GoDIGITAL From Theory to practice: Implementation and evaluation, within which a Professional Training Programme for teachers to digital skills acquisition in primary schools is developed. It utilizes all the products of the project in the form of a Guidebook, containing manuals and templates for the implementation of the whole training programme.

GoDIGITAL Pack for strategic exploitation and endorsement in Primary Schools – Declaration – Memorandum of Commitment for Digital Literacy in Schools, which aims to enable teachers, schools, public and local authorities and stakeholders to exploit and sustain the products, which can be used easily after the completion of the project.

The current document - **GoDIGITAL Tool Kit** is part of the GoDIGITAL Pack, and it aims to empower schools and teachers to design and execute their digital development plan, in order to become “more digitally” oriented, by giving them the specific tools. Its purpose is to upgrade the digital literacy of teachers, so that they can be more effective in their work, use more user-friendly approaches, motivate students to learn and communicate with them through tools and methods of the technological world we live in. The Tool Kit gives information about all the products of the project, it could be easily adopted and applied into practice, with the aim to improve the quality of teaching and learning. The Tool Kit is designed for use both at school level, as well as at regional and national level, it is offered both on hard copy (Learning Modules) and online (e-learning platform) thus meeting the diversity of teachers in EU countries (i.e. digitally developed or not).

RESEARCH

For the purposes of the project each partner conducted a national research, which investigated through policy and document analysis, the use and the provision of digital skills and resources in each partner country by the public, private or organization sector. Furthermore, the research investigated the profiles of the Technology Enhanced Teachers in the partners countries and their needs in relation to their professional and career prospects.

All national researches can be found [here](#).

Additionally, a simple questionnaire was prepared with mainly close-ended questions. The questionnaire was provided both online as well as on-paper with 2 sections, aiming to identify the personal characteristics of teachers and their needs. Based on the results of the questionnaire partners managed to identify the teachers needs summarized under the following categories: Personal Engagement, Digital Resources, Teaching and Learning, Assessment, Empowering Learners and Facilitating Learners’ Digital Competence.



In order to introduce, implement and develop ICT in education project partners have adopted different approaches and strategies. Albeit the differences of their strategies and projects, the long-term goal was rather the same for all partner-countries and it would be legitimate to describe it as to introduce digital literacy and exploit ICT as a beneficial and all the more profitable tool for school communities and educational practices.

In the manner now being indicated, Greece seems to be the first of the Partnership to tackle and make determined efforts to implement ICT's followed in chronological order by Cyprus(2005), Bulgaria(2006), Poland (2013) and finally Italy.

All five partners have embedded in their educational strategy a national policy for digital school recognizing thereby its importance not only as a highly efficient and multifunctional tool in the process of learning and developing pupil's competences but also as a sine qua non component of modern society. That being so, in Greece large-scale projects have introduced digital literacy in the school community and created a "critical mass" of teachers that make full use of and derive benefit from ICT in their school activities.

The common denominator of all those strategies is the modernization of the education system and the improvement of its quality, all by aiming the integration and incorporation of Information and Communication Technologies (ICTs) into the curriculum intended to enhance the everyday educational praxis. Regarding teachers ICTs could and/or should be a means of supporting current pedagogical approaches for teaching, learning, exchanging good practices with colleagues in the "global village", and opportunities for continuing education, and for students a useful tool for learning, problem solving, developing critical thinking and their creative ability. Therefor the target-group of those strategies. ICT should be considered as a dynamic tool for cognitive development, which, with the appropriate mediation of the teacher, will contribute to a substantial upgrading of the educational process. Hence, one could remark that digital educational content is a key priority for primary and secondary education, which is reflected in the design of the national programs for the integration of ICT in school education. In-service teacher training and the development and operation of computational and networking infrastructure and services for schools, that include a national-level school network, school labs, e-classrooms and

interactive teaching systems, are the other two pillars of the national policy, both strongly linked with the provision and exploitation of digital content. Following the directions of the 2020 digital agenda of Europe and the international trends, and taking into account the recent experiences, the key action lines are:

- a. Focus on the creation of reusable units of learning
- b. Promote Open Educational Resources (OERs)
- c. Promote re-using, remixing, and re-purposing of existing digital learning resources
- d. Improve digital infrastructure to facilitate search, retrieval, access and utilization of digital learning resources for all (teachers, pupils, parents, everyone)
- e. Promote the active role of teachers and pupils in the creation, documentation and evaluation of digital learning resources

The current model of integration and use of information and communication technologies (ICT) is the factual model and it stands as a combination of teaching of "pure" IT lessons and the simultaneous integration of ICT as a means of supporting the learning process in the various subject areas. It is a combination of technocratic/techno-centric (which puts greater importance to Information Technology (IT) teaching and emphasis on technological innovation) and holistic (which consider as important the cross-thematic and holistic approach to knowledge with emphasis on disseminating ICT related knowledge to the whole range of the curriculum as well as in the pedagogical innovation).

DIGITAL COMPETENCE FRAMEWORK

The Framework introduce quality standards to the use of digital tools and ICT in primary schools, both in relation to the strengthening profiles of primary school teachers, and to the introduction of evidence-based data for quality assurance.

The GODIGITAL FRAMEWORK is in essence the Blue Print Handbook that should be followed by national or local authorities, schools, institutions etc. especially in countries where ICT is not part of the National Curriculum. Basically, the Framework aimed to introduce quality standards to the use of ICT in primary schools and against which teachers' practices, knowledge and skills will be assessed and validated through an Open Badge assessment system designed for the purposes of the project, as well as ePortfolios / profiles as a way to introduce transparency, visibility, transferability and validity for the new digital skills acquired.

The proposed Framework was developed based on the requirements of the project and the 4 following aspects:

- 1. Intellectual Output 1: the analysis of questionnaires distributed to primary teachers for Intellectual Output 1 and the identification of their digital skills and needs.*
- 2. DIGCOMPEDU: European Framework for the Digital Competence of Educators.*
- 3. EQF: The European Qualifications Framework For Lifelong Learning*
- 4. The expertise, experience and knowledge of the consortium in the area.*

The Digital Competence Framework for primary schools was divided into broad sections, called "MODULES" (i.e. Internet, LMS, Website Design etc.). Each Module covers a specific set of knowledge/skills/competences/attitudes to be acquired by the primary school

teachers. Each MODULE comprises of several topics which are analysed in more detail in order for the framework of each Digital Competence to be fully explained.

Component 1: Module Title – the name of the Competence

Component 2: Main Objective – which provides the overall objective of what the ICT trainer aim to achieve and the learner aim to learn

Component 3: General knowledge, skills, competences: - provides the development and recognition of teachers’ knowledge, skills and competences

Component 4: Topics which refers to the specific chapters that the ICT trainer aims to teach and which specific topics the senior aim to learn

Component 5: Learning Outcomes – which indicate the specific skills that the adult will be able to do, learn or know (i.e. understand what is email, etc).

In-dept information about the Digital Competence Framework for each training Module can be found below.

[Module 1: Internet](#)

Main objective: This module provides information, knowledge and experience on effective and safe internet use for educational purposes by familiarizing learners with information search, selection and management’s tools and strategies, either on an individual or in a collaborative basis.

General Description: This module will help the learners to be and keep informed about the most often used search engines and will familiarize them with searching techniques appropriate to support critical information selection. It will also provide them with data management skills (individual or collaborative data creation, storing and sharing data/resources, collaborating and interacting with other users e.t.c.) and knowledge and strategies that both prevent and ensure the safe navigation on the net.

TOPICS	
Topic 1	Security/safety on the net
Topic 2	Info search on the net
Topic 3	Web 2.0
Topic 4	Info management

Module 2: LMS

Main objective: The main objective of this module is to instruct teachers on how to start, personalize, manage and use the Moodle platform from Teacher point of view in order to create online courses to students benefit.

General Description: In online learning the use of an LMS is fundamental in creating learning environments able to host courses that, considering social constructivism, can be efficient in stimulating interest in the learning process. Out of this necessity, arose Moodle, an LMS that has rapidly become a leader in the LMS sector, which helps to structure courses whereby everyone can participate in different roles from the manager to the external host in a well-structured online environment. The sound structure of this platform is based on the interaction of three essential roles: the manager, the teacher and the student. With the help of this module teacher the will learn how to use Moodle to create, organize, structure and manage online courses, how to feed the course with necessary resources and activities to permit students to be assisted and evaluated along whole lifespan of course duration.

TOPICS	
Topic 1	Creating a course in Moodle
Topic 2	Course Resources
Topic 3	Course Activities
Topic 4	Managing Course Participants

Module 3: WEB Design

Main objective: This module is a compendium of knowledge on the creation and ways of positioning websites made with the help of the free WordPress content management system. The course will prepare you to independently perform such a site from designing correct layout to correct content, graphic design and typography by installation to the editing of the advanced additions. The training is based on the dynamically developing WordPress development environment, which effectively presents content and graphics on the Internet.

General Description: During realization of this Module, the participants will discover the functionalities of WordPress and the main aspects of the system. They will learn how to plan website in order to meet needs and expectations of website users. They will know web design tools and they get to know how to fit graphics, color, transparency, and typography for purposes of the website. During realization of this module, they will discover how to choose an appropriate layout, format text and how the website users will use and perceive the information and functionalities that designer want to present. They get to know browsers functioning and bases of interactivity as well as responsivity of web pages. They will learn how to positioning the website in order to reach visibility to different groups of users, how to use keywords and google analytics in order to optimize website functioning.

TOPICS	
Topic 1	Fundamentals of the Web
Topic 2	Website Planning, functionalities and main aspects of the frequently used systems
Topic 3	Layout, Typography and Formatting (Graphics, Color, Transparency)
Topic 4	Browser Compatibility and Webpage Responsibility and Security

Module 4: HARDWARE

Main objective: The module 4 will provide primary school teachers with basic information about hardware, problem fixing and use of interactive whiteboard as a tool for encouraging and supporting classroom dialogue, while incorporating it in the classroom and daily curriculum.

General Description: Interactive Whiteboard is an innovative tool, which can enrich the educational process and support teaching performances of the primary school teachers by engaging students in the interactive activities and assignments, thus enhancing the quality of primary school education. The Module 4: HARDWARE - aims to provide primary school teachers with competencies needed to design educational resources while using IWB and to integrate them into everyday teaching activities, and at the same time supporting their confidence while working with computer, by providing information about hardware and how to tackle hardware issues.

TOPICS	
Topic 1	Hardware
Topic 2	Interactive Whiteboard
Topic 3	Interaction with the Interactive Whiteboard
Topic 4	Creating lessons using Interactive Whiteboard

Module 5: TOOLS / APPLICATIONS

Main objective: The main objective of the Module 5 is to prepare primary school teachers for searching, selection, valuation and practical use of ICT tools and internet applications in the teaching and learning process, adequately to the assumed learning outcomes and in accordance with the pupils' educational needs.

General Description: The Module 5 relates directly to ICT tools and internet applications that can be used in the teaching and learning process, in the context of primary school. These tools are presented in relation to selected didactic methods, ex.: educational project, digital storytelling, social learning, analytical and evaluation methods, but most of all it is biased around the content curation method. The teachers will develop both a theoretical orientation in the range of available tools and applications demonstrating the potential for education (getting tips on specific proposals for such computer programs), as well as practical skills related to their sourcing and use in the teaching process. In the Module 5 the emphasis is on shaping teachers' skills regarding to the independent search of tools and applications, critical evaluation of their educational potential and ability to properly design educational tasks and activities with their use. This Module focuses also on the issue of "content curation" - as a didactic method and its selected tools supporting responsible, systematic and critical collection, aggregation, classification and use of internet content and data – both by the teacher and by the learners (pupils). The teachers will be prepared both theoretically and practically to use the method and tools of "content curation" in their own didactic work (as methods of sharing Internet content to pupils and creating common educational workspaces in the Internet environment) and in the context of developing pupils' information and media skills (as methods of independent pupil's actions with the use of internet content).

Each application presented in this Module will be described in terms of:

- learning outcomes obtained through its use,
- advantages and disadvantages for the educational process,
- the possibility of using during the lesson and independent pupil's work.

TOPICS	
Topic 1	Content curation method
Topic 2	Tools and applications that support development of media and creative competences
Topic 3	Tools and applications facilitating pupils group and project work
Topic 4	Tools and applications used in educational analytical and evaluation methods

OPEN BADGE ECO-SYSTEM

Open Badges are a digital representation of skills, learning outcomes, achievements or experience such as:

- Hard skills: knowledge, competences, etc.
- Soft skills: collaboration, communication, etc.
- Participation and community involvement
- Official certification
- Authorization

Open Badge is an innovative system developed by Mozilla Foundation used in the USA and many EU countries for the validation and recognition of learning using the Open Badge technology.

This is a visual verified evidence of achievement, which has visual part (image) and meta-data encoded in the image. Each digital badge must comply with the required standard data fields, such as: issuer, date of issue, description of the badge, link to assessment criteria, link



to evidence of what badge owner is claiming, link to specific competence framework and tags, which puts an Open Badge in relation to specific context.

This system gives an opportunity for online validation of acquired skills and competences based on set requirements, criteria and achievements. Within the project, based on the designed digital competence framework, the Open Badges have been used for the assessment, recognition and validation system for the acquired digital skills of the primary schools' teachers. The benchmarks and the indicators are the basis for the levels and the criteria of the recognition/ validation.

The GODIGITAL consortium plays a critical role in developing the ecosystem. Open Badges can support learners to achieve new collaborations, jobs, internships and richer connections between lifelong learners. As an added value the Open Badges system will provide the opportunity to share and compare competences based on the badge achieved. Teachers will be able to use the earned badges as a valid proof of their skills. The badges can be added to their CV, LinkedIn, FB and other relative profiles, as well as portfolios in addition to the Europass Certificate.

The adoption of a flexible, innovative and user-centered validation method have been used not only as a mechanism for the recognition and validation of the acquired digital skills, but also in combination with the use of teachers' digital profiles/e-portfolios.

For each of the training modules, the GODIGITAL consortium has created the corresponding badges. After successful completion of a module (85% and over) teachers can earn the badge. These badges are made available for earning via the e-platform, which has been designed specifically for the learning and assessment purposes of the project.



Additional GoDigital Super Badge

Besides the above-mentioned badges for validating teachers' digital skills gained during the course(s), the consortium created 1 overall Badge (GODIGITAL) for successful completion of all the modules of the course. Once users receive all module badges, the e-platform will automatically award them the final Overall Course Completion Badge (GODIGITAL Super Badge).



Main characteristics of the GODIGITAL Open Badges eco-system:

- Primary school teachers are invited to register in the platform and take the course(s).
- The e-platform specifies the criteria of earning each of the badges.
- Primary school teachers have to provide evidence to meet the badge criteria in order to claim a specific badge. This process is automatized on the e-tool.
- The badges will be awarded automatically through the e-platform based on certain criteria.
- The issuer will provide the user with the opportunity (through the e-tool) to create an account in the Badge Backpack in order to display the earned badges there as well.

Assessment procedure:

- **Stage 1:** A *self-assessment test* was created to define the current digital skills of the primary school teachers. For each training module are designed 5 multiple choice



questions for each topic. For each question there are 3 possible answers and only 1 correct answer.

- **Stage 2:** A *final assessment test* was designed for the primary school teachers to evaluate their digital skills after completion of the training. Each module consists of 10 multiple choice questions taken from the self-assessment quiz with 3 possible answers and 1 answer is correct.

Users will have 2 attempts to pass the final assessment tests. After they successfully pass the tests will earn the appropriate Badges for each module.

GoDIGITAL EDUCATIONAL PACK AND KIT

The Educational Pack is connected to the Competence Framework and syllabus for the Digital Up-skilling programme for teachers, as well as the Open Badge System for assessment and validation of the skills acquired through the training courses. The Pack includes all teaching materials, resources, tools, and teaching guides (on-paper and on-line), which will be used for training of teachers, in order to be digitally literate and upgrade their teaching practices.

The Educational Pack is expected to stimulate and empower primary school teachers, schools, authorities, stakeholders etc. to organise professional development courses for teachers to upgrade their digital skills and become digitally literate in schooling thus supporting student's learning outcomes. The developed materials can be easily adopted and

Internet - <http://moodle.teachersgodigital.eu/course/view.php?id=2>

Tools and Applications - <http://moodle.teachersgodigital.eu/course/view.php?id=7>

applied into practice in order to develop the skills of the primary schools teachers, the raise of efficiency, effectiveness and quality of teaching and learning processes.

All teaching materials are available on the e-learning platform, in the form of on-line courses and for the implementation and evaluation of the project.

Based on the GODIGITAL digital competence framework have been designed the following:

- Introduction videos for each training module
- ICT training guides and other resources, which provide specialized information on different topics for acquisition of new digital skills.
- Assessment tests – self assessment test and final assessment test for evaluation and validation of the skills gained during the training using an Open Badges system.
- Additional exercises for consolidation of the newly acquired knowledge and skills.

TEACHING MATERIALS



INTERNET



LMS



**TOOLS
APPLICATIONS**



HARDWARE



WEB DESIGN

Register on our [e-learning platform](#).

Links to the learning modules in the e-platform can be found below:

WEB Design - <http://moodle.teachersgodigital.eu/course/view.php?id=6>

LMS - <http://moodle.teachersgodigital.eu/course/view.php?id=4>

Hardware - <http://moodle.teachersgodigital.eu/course/view.php?id=3>

GoDIGITAL INTERACTIVE LEARNING PLATFORM

The GoDIGITAL platform is a dynamic and interactive e-learning platform, which functions as an Open Learning Environment with useful e-tools and resources for digital development of teachers. The GODIGITAL e-Learning platform provides five training courses in five different languages, twenty five (25) courses in total. The courses consist of introductory videos for each module, initial/self-assessment tests and mandatory final assessment tests for each module, teaching materials, option (additional) exercises, and the e-Library with useful reports, articles, tools in relation to the use of digital skills in primary schools.

Each module is based on the components of the Framework and includes a theoretical part, practical examples, activities for exploitation, relevant resources, material, articles etc. and a challenge for the teachers to take which will then be evaluated by their peers and final by their MENTOR. A final validation test is provided.

The e-Learning platform also provides the users with an option for e-Community (forum), which allows teachers to start or participate in different discussions, to ask questions,



exchange good practices and peer support. Additionally, through this forum teachers can receive support from experts when needed.

GoDIGITAL e-Learning platform is expected to strengthen further the digital competences of teachers to comply with current technological advancement and enrich their teaching methods, ensure continuous development while at the same time provides opportunities for open, free and self-regulated learning.

To access all materials and take the training courses please [register](#) on our e-Learning platform.

Before register in the interactive learning platform you can check the e-Platform Manuals.

[e-Platform Manual for teachers](#)

[e-Platform Manual for students](#)

MONITORING AND EVALUATION

The output GoDIGITAL from theory to practice: Implementation and evaluation utilizes all the products developed during the lifetime of the project and offers a Professional Training Programme for teachers for digital skills acquisition. It is designed as a Guidebook, which is a base for execution of a full training course.

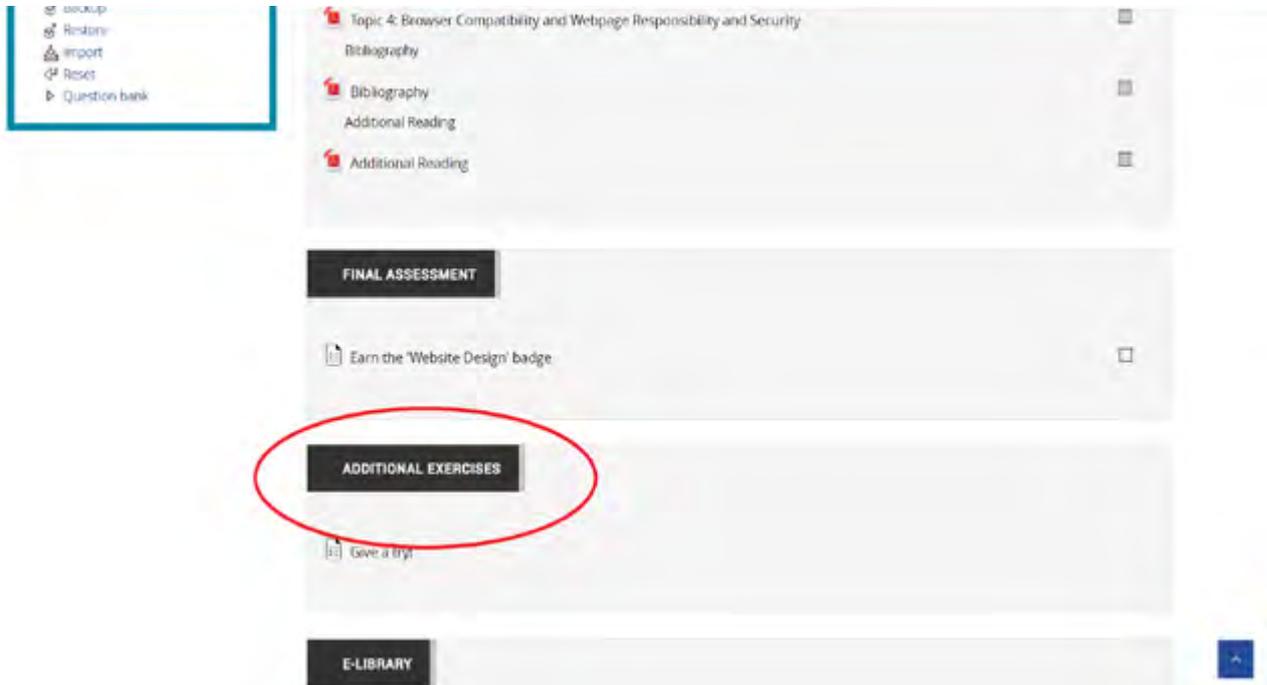
The GoDIGITAL [Guidebook](#) contains information about:

- Inventory report

- Framework
- GoDIGITAL Assessment tool
- E-Platform
- ICT Guides
- Learning modules
- Implementation of the training
- Evaluation procedures (Templates)

Its aim is to guide participants, both trainers and trainees, through the implementation of the training course, such as Registration and participation procedures, templates for implementation, monitoring and evaluation procedures, process of assessment and validation and validation of skills. The Guide provides also guidelines and instructions for the implementation of the project, for monitoring and recording purposes, roles (Mentor/Peers), schedule templates, organization of case-studies and preparation of GoDIGITAL Learning Logs and portfolio.

The monitoring for the use of ICT by teachers is based on traditional methods, such as supervisions and teachers' self-assessment. As a monitoring tools in the GoDIGITAL moodle platform can be also used the section for *additional exercises*, which can be found on the page of each learning module.



The screenshot displays a user interface for a digital learning platform. On the left, a sidebar menu is visible with options: 'Backup', 'Restore', 'Import', 'Reset', and 'Question bank'. The main content area is organized into several sections:

- Topic 4: Browser Compatibility and Webpage Responsibility and Security**: This section includes sub-items for 'Bibliography' and 'Additional Reading', each with a red icon and a list icon on the right.
- FINAL ASSESSMENT**: A dark header section containing the text 'Earn the 'Website Design' badge' with a list icon on the right.
- ADDITIONAL EXERCISES**: A dark header section containing the text 'Give a try!' with a list icon on the right. This section is circled in red in the image.
- E-LIBRARY**: A dark header section at the bottom of the main content area.

A small blue icon is located in the bottom right corner of the interface.

The Guide and templates, you can find in the [GoDIGITAL website](#).

CONCEPTUAL FRAMEWORK ON EFFECTIVE STRATEGIES AND POLICIES FOR USING TECHNOLOGY AND ICT IN PRIMARY SCHOOLS

The rapid development of Information and Communication Technology has led to a new reality in all sectors of life. Hence, the need to adapt the educational process to the challenges of this new reality renders necessary the integration of ICT at all stages of the educational system, so as to be able to meet the contemporary demands for education and training and the rapid developments of the market. The introduction and utilization of ICT in modern school has induced dramatic changes in the educational system. The traditional school which was based on the teacher as the sole master of information and knowledge, transmitting it to the student, is transformed to a new type of school. In this new school the role of the teacher is associated with that of facilitator, counselor, guidance provider to the students who gain knowledge and information by means of computer and the New Technology, functioning as researchers, guided by the teacher and being able in this manner to cultivate their skills and particular characteristics.

The idea of interaction on which New Technology is based offers the students the chance to participate along with their teacher in the designing of the educational activities and express freely their perceptions and emotions. Moreover, the appropriate psycho-pedagogic school environment is fostered allowing the communication between the class members within the framework of an equal relationship, interaction and feedback.

The speedy development of ICT leads to societal changes in a very fast pace and the school must be able to keep track of this development and adapt to the new rhythms. In order for this to be achieved, it needs to be supported by all the relevant bodies, so that ICT could be utilized in the most expedient way and improve the educational process. Primary school students need to be trained in the most appropriate and methodical way, so as to be able to face the societal challenges. According to Eurydice data on the use of ICT in Primary education, ICT is part of the students' curriculum almost everywhere in Europe.

General Goals for Primary School

ICT in Primary school can be utilized as:

- **Cognitive-Discovery Tool:** use of open source software of discovery learning for primary school. This software can take the form of interactive multimedia, simulation, educational games, modeling etc., allowing the students the possibility of discovering real or fictional situations, in accordance with their maturity level facilitating the development of creative and discover learning. The computer

becomes the means for development of activities and organizing knowledge and skills. **Visual aid Teaching tool** in basic teaching subjects: effective use of computer with a software of broad usage (painting, word processing, excel) which will be integrated into the framework of teaching basic subjects, like Language, Writing, Mathematics, creation and development of skills in art and group activities.

- **Communication Tool and Information Searching:** Use of data bases for information searching, use of the nets for communication with other students.
- **Computational Literacy:** familiarization with the basic functions of a computer: memory, information processing, communication, within the perspective of technological literacy and recognition of the potential of computational technology.

Within this context a basic goal for primary school students is for them to understand the main principles underlying the use of computational technology in important human engagements within the framework of various educational activities that students perform with the use of computer. In reality, a very important factor to be taken into account is the fact that students at this age become familiar with the use of computer with no particular effort. The secondary goals are for students to become acquainted with the basic ICT concepts, to get to know the computer and the rest of its units so as to grasp their usefulness and recognize the potential of computational technology, to become familiar with the use of general purpose software, whereby the computer is part of the teaching process of basic subject matter, to be able to seek information on the internet or other sources of information, to co-operate for performing team work activities, to discuss and express their thoughts.

The Particularity of teaching Computer Science in primary education and its combination with other taught subjects.

Computer science by its nature cannot be separated from other teaching subjects.

The diffusion of Information Technology in teaching other subjects in primary school has as its basic goal the utilization of ICT as a means of communication and information searching and as a visual teaching aid for the purposes and objectives of teaching, thus significantly influencing the teaching process.

The use of computers in the everyday educational practice has brought about important changes in the teacher-student relationship, as the new way of teaching and the whole teaching process changes from being traditionally teacher-centered to a new one more student-centered, with students adapting to a novel learning environment, which is characterized by a climate of communication, cooperation and exchange of ideas and

opinions with the use of New Technology.

The frequent use of Computer Science Labs enhances in a dynamic way teaching of every other subject, improving the quality of the educational process, through the use of appropriate teaching material-software and upgrading flexibility in the application of teaching methods. Moreover, it contributes to the interdisciplinary approach of knowledge and the application of active methods of learning, giving the opportunity to adapt the curriculum to new modern methods. It develops students' general abilities, enhancing the willingness for actual participation in class, activating their curiosity, since as proven, the computer is the most attractive means due to the potential offered for direct student access to information, stimulating in this way the interest of the majority of the student community and creating an environment of creative, discovery and experiential learning. Of course, the teacher has to train students so as to exhibit a critical stance towards the information, to check the various sources and understand their content having as a primary aim to secure quality in this new educational process.

Familiarization of the school community in primary education with ICT

The utilization of new technologies with the introduction of methods of active learning promotes discovery learning, enhancing the development of internal motives while at the same time it introduces more flexible processes when it comes to teaching each school subject. Hence, it offers students the chance to broaden their horizons at all levels of learning.

Despite this, there has been a notable retardation in terms of applying and developing methods with the use of New Technologies. This delay is mainly attributed to the lack of knowledge of New Technologies on the part of primary education teachers and their potential to offer in the process of teaching and learning. It is worth noting that there is a large group of primary school teachers who protest because they are not allowed to use the school computer lab in the educational process. The reason for this denial of access that head teachers usually bring forward is usually fear of a potential dysfunction of the computer equipment. Additionally, some principals ask teachers to be certified in the use of ICT so as to be allowed to use the school lab.

There is also a part of teachers that strongly react to the use of ICT at all educational levels, either because they exhibit a stance of futile conservatism, expressing the belief that ICT can hinder the "authentic" or "by the book" teaching, especially when it comes to humanitarian subjects or because they themselves are not familiar with ICT and are reluctant or do not have the time to become involved in a process of continuous professional development and training, claiming that ICT is suitable only for administrative matters. Furthermore, it has been noted that some of the teachers, mainly those belonging to a generation that never used computer for personal or professional reasons, while admitting the advantages of

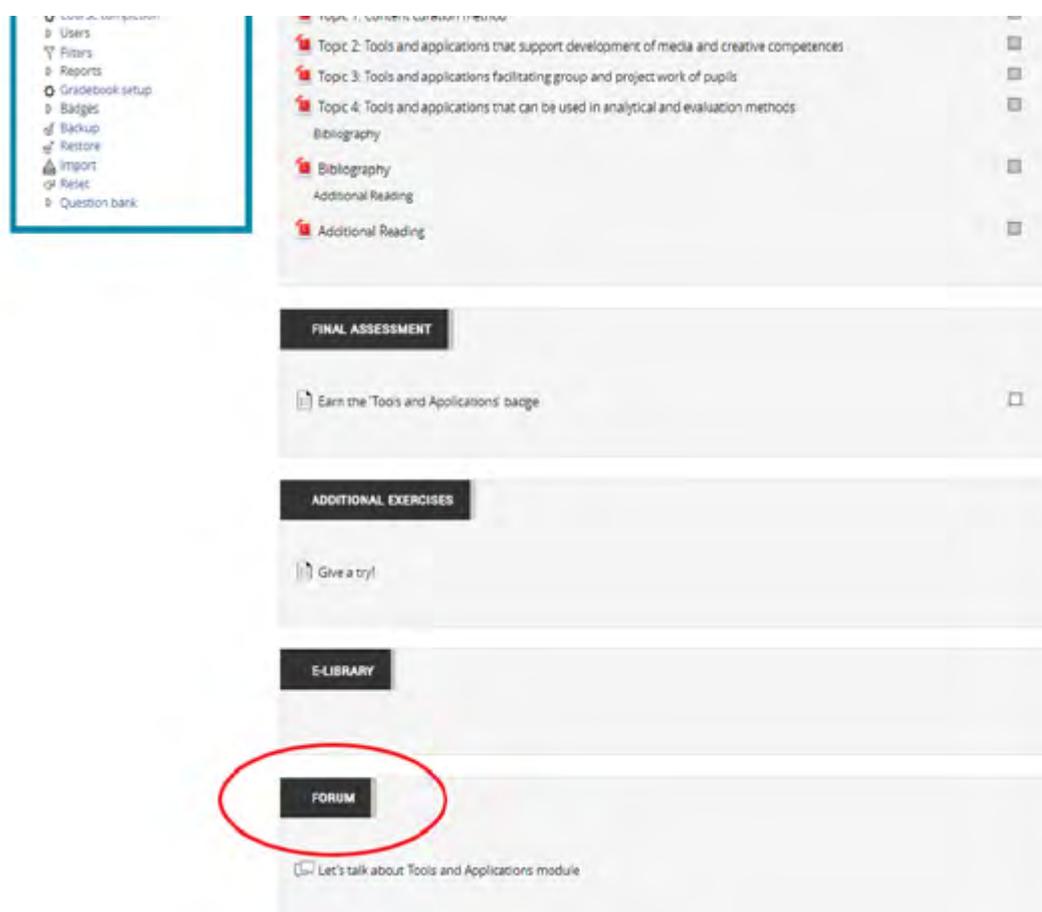
using ICT in the educational process they are still reluctant to change or modify the traditional way of teaching, because they feel weak and vulnerable in front of their students, for fear of losing the class control.

The introduction and the use of New Technology in contemporary school is enhanced by the willingness for cooperation between teachers and students in the educational process. Of course, an important prerequisite for the appropriate usage of New Technologies and means of Communication in the educational process is the suitable and methodical preparation of the educational community in its entirety at all levels. Moreover, the continuous, administrative and technical support of the educational community is necessary, as New Technologies belong to a constantly developing field. This parameter of course involves the analogous financial cost. The state efforts to equip all schools with computer labs should be positively viewed by the educational community and by no means should it create inequality among students of different schools due to the potential difficulty encountered by some teachers to make use of this infrastructure. Therefore, there is an imperative need for continuous training of all teachers on New Technologies and the creation of new educational activities that will make effective use of them, aiming at the improvement of the teaching quality and the transmission of knowledge. Finally, all the University Teachers' Training Departments should include more computer science courses in their curriculum, so as to offer the future teachers the ability and the experience to use New Technologies and pedagogically make use of them in as many subjects as possible.

GoDIGITAL SOCIETY FORUM

After registering in the platform every participant is allowed to visit the learning modules – see their content and learning materials and complete the self-assessment tests.

An additional thing we included in the main page of each learning module is a section named “Forum”. It can be found on the bottom of the page.



Here teachers can create and participate in discussions, exchange materials, ask questions and give opinions. The Forum’s main function is as a tool for online communication among the participants and also gives them the opportunity to share their feedback, impressions and ideas related to the concrete learning module or to the whole e-platform.

FACEBOOK AMBASSADORS GROUP

The GoDIGITAL Ambassadors group on Facebook is working as an online space for sharing the results and achievements throughout the project and various digitally oriented articles. All the ambassadors in it form an e-community, which supports the goals and the objectives of the project.

You can also become an ambassador to the GoDIGITAL project by joining the group on the following link: <https://www.facebook.com/groups/355823241767179/>

GOOD PRACTICES IN DISTANCE LEARNING BASED ON GODIGITAL TEACHERS' EXPERIENCE

The basis for developing an organization of work and distance learning at school is an access to computer equipment and the Internet. It is important to determine whether each student has a computer at their disposal with Internet access enabling remote learning, or whether they must share it with other members of the household (siblings, parents). Such information may be collected through a survey or otherwise practiced at the school.

Choosing one solution for a given type of activity, e.g. a common solution for the whole school in terms of the remote learning, audio-video communication, communication etc., needs to be done through an online learning platform, such as Moodle, Microsoft Teams, Classroom, Zoom etc. Such platforms allow you to plan the remote learning process and monitor the progress of students, and thanks to the built-in communication modules it enables the communication between teachers and students and between students.

Including in the planning and organization of classes using distance learning techniques there are various **methods of remote work**:

- a. synchronous method - teacher and students work at the same time, e.g. video collection on the platform, video chat,
- b. asynchronously - at different times, e.g. lesson recordings, presentations, links to educational materials, documents, videos available for students on the platform / on the network, lessons by working in the cloud,

c. combining parallel work with work spread over time, e.g. performing a mini-project together, searching for information in order to solve a problem, and then preparing a presentation of the effects of joint work,

d. consultations during which the teacher is available online for students.

Coordinating the number of classes conducted at school synchronously at the day school and weekly level - setting the limit of lessons conducted in real-time at individual educational stages, both per week and on a specific day, taking into account the safety and ergonomics of work at a computer (or other multimedia device).

Systematic (e.g. once a week, once every two weeks) posting/updating the timetable of classes for each class together with information about the form of classes/method of conducting, topics, tasks for students with the deadline for their completion/sending, so that parents have the opportunity to provide the child access to the computer.

Coordinating the number and type of homework and homework assignments to students at the level of individual class divisions - students must have adequate time to complete their assignments as well as support and help from teachers.

Providing students with the possibility of individual consultations with teachers: on-line, using instant messaging, or by phone; providing a teacher consultation schedule.

Providing teachers with the opportunity to conduct lessons using distance learning methods and techniques at the school premises.

Providing teachers with the opportunity to participate in training to improve IT competencies, thanks to which they will be able to efficiently use the tools used at school, as well as in training in the field of remote work methodology.

Establishing a remote learning team/group of leaders in the school in order to support other teachers, share IT and methodological experiences and skills.

How to organize distance learning for a class (department)? Tips for the educator and subject teacher

1. The class teacher remains in contact with students and parents and monitors the fulfillment of compulsory education by students on an ongoing basis, checking their presence during online classes. In case of absence, he/she determines the reason for this event.

2. The class teacher, in cooperation with other teachers, determines the level of students' involvement, their activity during classes and helps in solving current problems.

3. Implementation by the educator, with the support of specialists, of the educational and prophylactic program - adapting the topics of classes with the educator to the emerging problems related to remote learning and the pandemic.

4. Stimulating the social contact of students by enabling them online contact at a specific time, eg after compulsory classes (without the participation of the teacher) - after introducing contact rules agreed with students and parents that will ensure safety.

5. Providing on-line consultations for parents of students (as needed).

6. Cooperation with the teacher co-organizing special education for students with certificates.

7. Every teacher, including a teacher co-organizing special education, should establish a clear way of answering questions asked by students and parents through the school's messenger. Ideally, these should be uniform rules for the entire school.

8. Teachers, psychologists, and educators should be available online to students and parents following the schedule posted on the school's website or communicated to parents in a manner determined by the school.

9. Teachers collaborate in subject teams: they determine the content of education to be implemented in individual classes and the recommended 7 ways of their implementation (tools, methods, and forms). If necessary, teachers recommend to the school headteacher to modify the school's set of curricula.

10. In the field of teaching methodology with the use of distance learning methods and techniques, teachers are in constant contact with each other online, share experiences, insights, cooperate in creating educational materials for remote work, share them, and work together on homework assignments for students.

11. The teacher arranges the classes in such a way that the students can use each other's knowledge and skills - work in pairs and groups, discussions, exchange of views.

12. The teacher is required to explain, discuss, and practice new content and skills with students. The student has the right to benefit from the teacher's consultation, advice, and guidance concerning the tasks performed.

13. The teacher adjusts the tools, methods, and forms of work that he intends to use in remote learning to the psychophysical abilities of the students. It is useful to contact a computer science teacher who could indicate what skills/tools students should already have mastered.

14. As necessary and possible, teachers and specialists: a) develop their materials tailored to the needs of students, which result from a specific situation:

- record videos and their statements supporting students,
- provide links to valuable movies or tutorials from the Internet,
- create crosswords, online quizzes related to experienced emotions,
- organize group activities and workshops using teleconference software.

Below you can find five recommended examples of online platforms for distant teaching. They are based on the combined feedback we received from the teachers who participated in the trainings throughout the project:

1. **Microsoft Teams** gives you the ability to chat live, upload materials, test forms quite smart, possibility to send videos, photos, possibility to return to the previous lesson, share the screen and also has the feature of interactive board working.
2. **Google Classroom** is an online platform and its range is from 3th to 12th grade. It's easy-to-learn interface helps the process of teaching and learning. It enhances

teaching, because it allows to keep a document of all classwork and notes online and in this way the teacher and his/her students can access it anytime.

3. **WebEx** offers similar options as the other online platforms and is also appropriate for distant teaching. Here the difference lies in the more developed collaborative spaces for students, where they can work together. In this way students are more encouraged to arrange practice meetings by themselves and have the initiative for shared working.
4. **The Integrated Educational Platform** used in Poland allows you to plan the remote learning process and monitor the progress of students, and thanks to the built-in communication modules it enables the communication between teachers and students and between students.
5. **Moodle** is the platform used during the trainings, which were conducted within the project. The feedback we received from the teachers was about the well-structured interface and easy to navigate menu.

Of course, there is a wide scope of online platforms used by educational institutions and are worth checking out and using.

Every teacher's desire is to engage his/her students in the learning process by preparing the teaching materials in an attractive and educating way. Here are some digital tools, which can be useful for fulfilling this purpose:

- * **Wordwall.net** - Learning through play, you can create creative consolidation exercises.
- * **All**. The applications made it possible to create a variety of exercises, tasks and presentations. These materials are very attractive to students.
- * **Forms and Socrative** allow you to create tests for particular topics.
- * Creating tests in **FORMS** is simple to use and helpful for teachers.
- * **SUPERMEMO** Primary and high school students like working with it, because of the well-structured and easy to understand lessons.
- * **Quizlet and Quizizz** are fun and very intuitive and you can use the text-to-speech feature.

You can check more interactive digital tools in our learning module "Tools and Applications", which you can find in <http://moodle.teachersgodigital.eu/login/index.php> after quick registration.