"Young students are trained to educate adults in the creative and safe use of the internet" («Μαθητές εκπαιδεύονται στον μαθησιακό σχεδιασμό για εκπαίδευση ενηλίκων στη δημιουργική και ασφαλή αξιοποίηση του διαδικτύου»)

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SUMMARY (ΠΕΡΙΛΗΨΗ)

Training students to educate digitally illiterate adults in using the internet, involves a process where students are engaged as active learners, developing at the same time key skills and constructing knowledge. This paper presents the EduWeb approach, within the European funded project "EduWeb – Combating Digital Exclusion: Children educate digitally illiterate adults in safe and creative web", for educating young students to become trainers of adults in using the internet. The paper describes the case of one school, where the teachers were supported to coach their students to be young coaches for the internet. The teachers were firstly trained on the project's basic elements, while students were coached in their learning path, including the areas of Digital literacy skills, Learning design and content development, Adults' teaching and learning approaches, Creative and safe use of the Internet. Based on this pilot implementation, the EduWeb approach was developed, so as to be exploited and scaled up to more schools in all the project participating countries. Finally, the paper describes the pilot implementation process, as well as the content developed to support it, along with the learning material that the students designed and developed.

KEY WORDS (ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ): *digital literacy, young coaches, safe internet (ψηφιακός αλφαβητισμός, μικροί εκπαιδευτές, ασφαλής αξιοποίηση διαδικτύου)*

INTRODUCTION (ΕΙΣΑΓΩΓΗ)

Training students to educate others, involves a process where students need and develop skills, including collaboration and communication, critical thinking and problem solving, creativity and innovation, information literacy and digital skills, while at the same time they construct and share knowledge. When, specifically, students are expected to educate digitally illiterate adults in using the internet, students are involved as active learners who need to

identify needs, set goals, plan, design and develop, implement, reflect on their practice and revise as necessary.

Within the European funded project "EduWeb – Combating Digital Exclusion: Children educate digitally illiterate adults in safe and creative web", the EduWeb approach was developed, for educating young students to become trainers of adults in the creative and safe use of the internet, as well as designing and developing the educational content and material needed for this purpose.

The EduWeb approach was based on literature review on the areas of Adult learning, Training young coaches (pedagogy), Digital learning and Internet safety, as well as on European best practices for adults' education on Internet use (EduWeb O1: Report on the best practices for adults' education on Internet use in the educational process throughout Europe). It was then validated through a case school implementation, before it's scaling up.

The EduWeb project is funded by the European Commission under the Erasmus+ programme (KA2) and it aims to train students to become Young Trainers for adults in the creative and safe use of the internet. This includes the training of teachers to support and coach their students during the development and implementation of educational scenarios, the training of students to become young trainers, as well as educational resources and tools to support the whole process (http://eduweb-project.eu).

This paper is structured into four main sections:
- Development of educational material
- Description of the training process
  - Implemented pilot case school in Cyprus
  - Training approach and educational material for teachers' training
  - Training approach and educational material for students' training
  - Training approach and educational material for adults' training
- Scaling up
- Discussion

DEVELOPMENT OF EDUCATIONAL MATERIAL

The educational material development approach involved meetings with both the participating teachers and the students to undertake the role of the Young Trainers for adults for the creative and safe use of the internet (Economou, 2017). Involving the training actors, from the beginning, in the development of the material to use for the trainings to deliver, ensures their better understanding of it as well as acknowledging their ownership of the trainings. Creating a sense of personal ownership is also thought to be crucial in constructivism, where learners are expected to learn in their own unique way (Garrett, 2011).

The design and development of the educational material involved two elements: Process and Content.

In terms of content, it covered the following areas:
- EduWeb approach and scope

- Digital literacy skills
- Adult learning
- Training young coaches
- Digital learning
- Creative and safe use of the internet
- Learning design for the development of short educational courses

In terms of the training process, the following steps were proposed for the EduWeb model:

- Teachers are trained on the EduWeb approach
- Students are trained to become Young Trainers for adults for the creative and safe use of the internet
- Students analyse the needs of their target audience and decide on the activities and short courses to develop
- Students adapt or create new learning activities based on the EduWeb guidelines
- Students implement the adults' trainings in workshops
- Students and teachers reflect on their work

DESCRIPTION OF THE TRAINING PROCESS

The EduWeb approach involves both the training process and the design and development of content. The trainings involve the teachers, the students and the adults. For each group, different content and approach is applied. Relevant educational material has been developed to be used.

To validate the training process, before its scaling up, a pilot implementation took place with the school case of Lykeio Aradippou (Aradippou Lyceum). During the implementation, the school teachers were supported to coach their students to be young coaches for the internet, by firstly being trained on the project's basic elements, which include Training young coaches, Digital learning, Internet safety, Adults learning and Instructional design. At the same time, students were coached in their learning path, including the areas of Digital literacy skills, Learning design and content development, Adults' teaching and learning approaches, Creative and safe use of the Internet. Based on this pilot implementation, the EduWeb approach was further exploited and scaled up to more schools in all the project participating countries.

IMPLEMENTED PILOT CASE SCHOOL

The training approach suggested by the EduWeb project is based on the case implementation of the Lykeio Aradippou (LA) in Cyprus (April-June 2017). The Cyprus Pedagogical Institute (CPI) designed and planned an implementation model for the school, which was implemented in collaboration with the school EduWeb team.

For that purpose, the following actions were decided:

- Adapt "EduWeb O1: Report on the best practices for adults' education on Internet use in the educational process throughout Europe" content

in a teachers' training booklet (to be also hosted on the EduWeb learning educational resources platform)

- Design and deliver a small survey among the adults' community of the participating schools, in order to validate and identify the final content areas under focus for the adults' trainings. The survey is to be conducted by the students to be involved as Young Trainers for adults for the creative and safe use of the internet.
- Invite students who would be interested to take the role of the Young Trainers for adults for the creative and safe use of the internet.
- Train the students to become Young Trainers for adults for the creative and safe use of the internet on 3 areas:
  o Creative and safety use of online technologies
  o Adult learning
  o Learning design and material development
- Prepare a Young Trainers' booklet with the material to be used for their trainings
- Guide and coach the students to prepare the lessons to deliver for the adults' trainings on the content areas identified (in booklets and digital form as ebooks, as well as to be hosted on the EduWeb learning educational resources platform)
- The students to deliver the trainings to teachers and parents within their school, to adults in the wider community and to groups at the Ministry of Education.
- The teachers and students to disseminate the material to other schools and students to be used.
- Further develop activities and short courses with the aim to cover all the content areas identified.

PROPOSED TRAINING APPROACH AND EDUCATIONAL MATERIAL FOR TEACHERS

The school teachers were firstly introduced on the scope of their work for the EduWeb implementation. During this phase, an action plan was also agreed to be followed, with the aim to maintain the best possible results, acknowledging:

- The adults' needs, regarding content and learning styles
- The young trainers' involvement in the needs analysis and educational material development
- The teachers' support

In order for teachers to be able to prepare and support their students to become the *EduWeb Young Trainers for adults for the safe and creative web use of internet*, they first needed to have a clear understanding of the EduWeb critical elements and more specifically:

- Internet safety
  o Safe and creative use of the internet
  o Adult needs on the use of the internet and common dangers faced

- Adults education
- Training young coaches
- Digital learning
- Learning design (in case they will be involved in the development of new material)

A teachers' training booklet has been developed by CPI to support the teachers' training (https://www.e-epimorfosi.ac.cy/eduweb/teachers_training_booklet.pdf). The booklet can be used as a reference through guided activities or as a self-learning tool.

The teachers who attended the first meetings were then called to transfer the EduWeb approach in their school setting, by training the rest of the school teachers, informing the parents, and educating the students. Following the awareness and training meetings with the school team, students were invited to submit their interest of becoming Young Trainers for adults for the safe and creative web use of internet. The school ICT teacher along with the CPI trainer, introduced the students to the programme and the scope of work. The work was taking place partly during the ICT lessons and during extracurricular hours within and outside school hours. Some meetings took place online. The CPI prepared a Students' training booklet to support the students' trainings and their work to be done (https://www.e-epimorfosi.ac.cy/eduweb/students_training_booklet_en.pdf).

It is important to note that the teachers' role through the whole process was mainly coaching and facilitating their students towards their role as Young Trainers. Coaching, as a modern approach of teaching and learning, can be effective in converting knowledge to skill and lead to transformative learning, if it is used successfully (Fazel, 2013). Students worked collaboratively in smaller groups and shared their work with the rest (f2f and on their online space). It is essential that students take the responsibility to identify the needs of the adults, design their action plan for the trainings to deliver and to be able to evaluate the implementation and the success of their trainings. The trainer and teacher were giving continuous guidance and feedback on students' work. The role of the teachers is critical, in order to have students develop skills as adult trainers for the creative and safe use of the internet.

Based on the LA case in Cyprus, the proposed EduWeb approach for teachers' trainings in order to train and coach EduWeb Young Trainers for adults for the safe and creative web use of internet was formed and is shown in Table 1. It is expected that teachers to be involved in the EduWeb implementation are teachers with some background on digital online technologies. Taken that teachers' professional development time is quite limited among all the other duties they have, a training scheme was chosen that does not require too much time on their behalf and leaves more flexibility on the time and place for their own learning, while continuous support (with a training coach) is provided.

f2f (or online) workshop
- Introduction to the EduWeb model and its critical aspects
- Discussion of the scope of work
- Development of an action plan
Implementation phase
During the implementation phase the teachers apply the students' training model and they have:
- Continuous support (school visits and/or online)
- EduWeb teachers' community access
- EduWeb educational resources portal access
Reflection phase
After the delivery of the trainings with the adults, the teachers meet to share and reflect on their experience

Table 1: Proposed approach for teachers' trainings in order to train and coach EduWeb young trainers for adults for the safe and creative web use of internet.

The proposed approach for the teachers' trainings follows a blended learning scheme, with an initial workshop (either f2f or online) during which the EduWeb model and its critical elements are presented and discussed, along with an activity for teachers to develop an action plan for the EduWeb implementation in their schools. During the course of the EduWeb implementation, the teachers are supported either by school visits or by online communication (synchronous and asynchronous), as well as with reference to the continuously updated resources on the EduWeb portal. At the end of the implementation, a final meeting (f2f or online) will take place so as all teachers involved share and reflect on their experience.

For the exploitation of the project, the existing training scheme and content could be developed as an online course (even a MOOC) to be offered.

PROPOSED TRAINING APPROACH AND EDUCATIONAL MATERIAL FOR STUDENTS
In close collaboration with the school, the EduWeb Cyprus team, invited students to become Young Trainers for adults for the safe and creative web use of internet. The school ICT teacher along with the CPI trainer, introduced the students to the programme and their scope of work. The work was taking place partly during the ICT lessons and during extra-curricular hours within and outside school hours, during which the ICT teacher and the CPI trainer were training the students. Some online meetings also took place, while the group work for the content of the lessons was done by the students during their free time with the support of their teacher.

The following meetings and activities took place, during this pilot implementation:
- First meeting:
  o Introduction to EduWeb and scope of work.
  o Parents' letters of consent

- o Examples of the Young Coaches for the Internet work.
- o Examples of educational material (e.g. Digitally Family-digitallyfamily.com, Young Coaches for the Internet-youngcoaches.pi.ac.cy)
- o Reference to the internetsafety.pi.ac.cy portal for information on Internet safety
- o Naming their group "LA webbies"

The students were introduced to the EduWeb Cyprus team and to the project. They visited and discussed examples of educational material for adults and portals with material on the creative and safe use of the internet for their own reference.

- Second meeting:
  - o Discussion of DigComp framework for content areas to cover (https://ec.europa.eu/jrc/en/digcomp/digital-competence-framework)
  - o Preparation of a survey (on google forms) to be delivered within the adults' population in their school community for their training needs

The students visited the DigComp framework and discussed the areas of competences for a Digital Competent citizen developed by JRC (2016). They were asked to refer to this framework when designing their activities and the short courses for adults. They also discussed the EduWeb areas of content for the adults' trainings and they agreed to run a survey within the adults' population in their school community for their training needs, so as to verify or modify the EduWeb proposed ones.

- Third meeting:
  - o Discussion of the survey results
  - o Identification of the content areas to be covered
  - o Formation of 4 groups with 2 members each
  - o Assignment to each group one content area to decide on the aspect to be developed in a lesson
  - o Discussion of adults' characteristics and learning styles
  - o Organisation of each group on how and when to collaborate to do the work

The students shared the results of their survey. They agreed on the areas that they would focus on based on these results for the adults' trainings in their school community. They formed 4 groups (2 students in each one) and they decided on the area each group decided on the area and suggested the topic to work with. They discussed the adults' learning characteristics to consider when designing their activities.

- Fourth meeting:
  - o Presentation form each group of their first thoughts on the aspect they wanted to develop as a lesson
  - o Discussion on the Learning Design elements (eg goals, activities, evaluation etc)
  - o Finding examples (eg Digitally family)

- o Agreement on the format (to be also as ebooks) and timeframe
- o Formation of online space to host the work of the groups

Each group presented their initial ideas as follows: Group 1: Communication -Skype, Group 2: Entertainment – Youtube, Group 3: Shopping – Amazon, Group 4: Services - Banking, Group 5: eGovernment Services – Ariadne portal (this one was added since there was existing content prepared). They were presented and they discussed elements of learning design, such as the structure, what kind of description to include, what kind of assessment is needed, the format and the presentation of the information. It was also important to discuss the internet safety element and how to incorporate it in every lesson. The discussion ended in a template with guidelines to follow.

- Fifth meeting:
  - o Presentation from each group of their work and feedback from the whole team
  - o Discussion of the "character to be used" – online meeting with graphic designer to give the character requirements – and decided on the name Webbie
  - o Finalisation of their work

The lessons that the groups were developing were hosted on the shared space of the group and the students were getting continuous feedback. At this meeting they discussed the need of a "character" the EduWeb coach and his role. They defined the characteristics they were looking for, and they then had an online meeting with a graphic designer to describe it. Thus Webbie -the EduWeb coach- was formed (https://www.e-epimorfosi.ac.cy/eduweb/WEBBIE.zip). For the finalization of their work a proof reading was also planned by a language teacher (Greek and English).

- Sixth meeting:
  - o Decisions on the strategy of delivering the lessons (how many, to whom etc)

In this meeting the aim was that the students plan and organise the training to offer. They discussed the target groups and a timeframe. One aspect they also discussed was the training of other students from other schools so that they present the content and the implementation planning.

- Seventh meeting:
  - o Reflection - After the delivery of the lessons

This meeting is planned after the implementation of the adults' trainings.

This pilot implementation with the LA case, led us to the formation of the approach to propose for the students' trainings to become the EduWeb Young Trainers for adults for the safe and creative web use of internet (Table 2), introducing 5 phases:

- Preparatory phase
- Training phase
- Development phase
- Implementation phase

- Reflection phase

At the same time, it led into a booklet for the students' reference, with all the material developed and used.

It is estimated that for each meeting about an hour should be available, while for the development phase (depending on the age and experience of the students) about 10-20 hours should be planned.

Preparatory phase

- EduWeb presentation to the school community (teachers, students, parents)
- Invitation for students' participation
- Parents' letters of consent

Training phase

- 1st meeting:
 - Introduction to EduWeb and scope of work.
 - Examples of the Young Coaches for the Internet work.
 - Examples of educational material (the ones that have been already developed)
 - Reference to the internetsafety.pi.ac.cy portal for information on Internet safety
 - Reference to the EduWeb portal for the learning material
- 2nd meeting:
 - Discussion of DigComp framework for content areas to cover for the adults' trainings
 - Initiation of a survey to be delivered to identify adults' needs for the trainings (optional)
- 3rd meeting:
 - Discussion of the survey results (if applicable)
 - Identification of the content areas to be covered
 - Formation of working groups
 - Assignment to each group one content area to decide on the aspect to be developed in a lesson
 - Discussion of adults' characteristics and learning styles
 - Organisation of groups on how and when to collaborate to do the work
- 4th meeting:
 - Group presentations on their first thoughts on the aspect they want to approach as a lesson
 - Examples of already developed material (visit the EduWeb portal)
 - Decisions on whether they want to use already developed material (from the EduWeb portal) or whether they want to develop new ones
 - Discussion on the LD elements (if applicable)
 - Agreement on the work timeframe
 - Formation of an online space to host the work of the groups

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Development phase

During the development phase the groups work independently, they share their work on their online space and the teacher give feedback on their work. If they decide not to develop new material they will describe how to use the existing material. They may have a couple of meetings, as necessary, so as:

  - Each group present their work and get feedback from the whole team
  - Groups finalise their work
  - Students decide on the strategy of delivering the lessons (how many, to whom etc)

Implementation phase

During the implementation phase the students deliver the trainings to the adult groups and take notes of the self-evaluations. They keep a report of their offered trainings.

Reflection phase

After the delivery of the trainings with the adults, the students meet to share and reflect on their experience.

Table 2: Proposed approach for students' trainings to become the EduWeb young trainers for adults for the safe and creative web use of internet.

Educating young students to become trainers incorporates a variety of modern learning approaches aiming at the students' constructing knowledge on the subject matter, while at the same time developing the necessary skills to deliver and share that knowledge. Through an emphasis given both on the process of learning as well as the outcome (product) of learning, teachers are required to apply pedagogy that supports the students' active engagement in their own learning.

Working in groups under the teachers' coaching and facilitation, mutual learning on issues that are of interest to students, requires first and foremost their understanding on the issues, grasping the knowledge, and finally the ability to transmit the knowledge acquired to others. Through this process, students do not only acquire knowledge on the matter, but they develop at the same time significant competencies for their personal and social development, like: Collaboration skills, Ability to develop an action plan with objectives and activities, Problem solving skills, Reflection and self-evaluation, Communication, Sharing and dissemination of knowledge, and Cultivation of attitudes and values (Economou et al., 2013).

PROPOSED TRAINING APPROACH AND EDUCATIONAL MATERIAL FOR DIGITALLY ILLITERATE ADULTS

The educational material developed by the LA students, in the form of short courses for adults on the creative and safe use of the internet (https://www.e-epimorfosi.ac.cy/index.php?id=251&a=2), assume that the students will deliver f2f workshops to the adults, following the structure of their

learning designs. At the same time, the courses, in the form of booklets and ebooks will be used from the adults as references for further practice. All the courses will be also hosted on the EduWeb platform in the form of eLearning for further self-learning use.

The EduWeb Content Framework involves the following areas, based on a needs analysis for adults on the use of the internet:

- Communicate
- Be informed
- Entertain one's self
- Shop
- Protect one's self and others
- Create
- Resolve technical problems

Under each area, a number of topics are developed in short courses and activities, each one including the following basic elements:

- Presentation of the topic
- Learning goals
- Digital skills
- Tools to be used
- Introduction and explanation of each activity
- Tips (mainly on the safe use)
- Self-assessment

Each course also refers to the level of difficulty, so as adults can choose according to their initial level of knowledge and skills.

For the development of more material from the partner schools, a content matrix has been shared online for all the schools to fill in the areas and topics that their students would like to develop. Each partner school, will follow the suggested frameworks for schools, teachers and students, so as to develop the short educational courses to be developed and implemented.

It is suggested that the educational material development and use, includes 4 phases, taking into consideration the EduWeb eLearning environment and at the same time the adults' learning needs, as follows:

First phase: Educational material as described above, in the form of short educational courses with references (such as videos, links etc) in pdf format (digital and printed versions) to be used as reference during and after the f2f training implementations to groups of adults', by the students. At this phase a short educational course will be also developed on how to use eLearning and specifically the EduWeb Moodle eLearning platform.

Second phase: All the educational material (i.e. the short courses in pdf format) will be hosted as separate downloadable documents on the EduWeb Moodle eLearning platform. Adults will be introduced to the EduWeb Moodle eLearning platform to access all available courses.

Third phase: All the educational courses will be broken into L-mites and users will be able to create their own L-bundles to follow (Ntemkas et al., 2017).

Fourth phase: Users with access will create more L-mites to enrich the existing pool. Further exploitation ideas will be shared for the sustainability of the eLearning use.

SCALING UP

An open call was circulated in schools in Cyprus and 5 more schools were selected to be supported so as their students become EduWebbers during the year 2017-2018. In an initiation meeting in the beginning of the year, the LA students presented their work and through workshops offered to adults, they trained the other schools' students on the EduWeb approach.

Furthermore, the project partner schools, followed the EduWeb approach with their teachers and schools and more material has been developed for adults' trainings to take place (http://eduweb-project.eu/index.php/en/courses-en). Moreover, LA students presented their work and experience to students in the Italian partner school through an online meeting and to the students in the Greek partner school during a multiplier event organised in their school.

DISCUSSION

The development of the EduWeb approach, training and content, was based on literature review, including European best practices for adults' education on Internet use, as well as through a case school pilot implementation. The educational material was designed and developed taking into consideration the needs of each audience for both the content and its format.

The initial educational material for the adults was designed and developed from the students of the LA who were trained from the beginning in the learning design process. The LA students had already some experience on training adults through their involvement as Young Coaches for the Internet.

The students identified the areas to be tackled and they chose the topic under each area to develop as a learning design for their trainings for adults, based on a learning needs analysis survey they had conducted.

Through their EduWeb training to become Young Trainers for adults for the creative and safe use of the internet, the students went through the concepts of adults' education, digital learning, learning design and educational material development, creative and safe use if the internet, and finally their role as trainers. Their initial involvement in the design and development of educational material introduced them to further knowledge and skills, as well as the ownership of the whole adults' training process.

The teachers' role through the whole process is critical, in order to have students develop skills as adult trainers, mainly through coaching and facilitating their students towards their training role. For that purpose, teachers' support by a coach or a peer, as well as access to online communities and resources is essential.

ACKNOWLEDGMENTS

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