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LUCI E OMBRE DI UNA INEVITABILE TRANSIZIONE

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INDICE

3. OPEN VIRTUAL TRAINING FOR EXCELLENCE IN SKILLS DEVELOPMENT. A LEARNING EXPERIENCE TO PROMOTE QUALITY TEACHING

di Maria Chiara De Angelis*

Abstract: *The essay describes the experience of the online training model for teachers, designed by the Hellenic Open University (HOU) within the RE-EDUCO project, co-financed by the Erasmus+ Program. The online training course for teachers aimed to address potential digital skills shortages and improve the capacities of the educational staff in effectively incorporating innovative online training approaches and tools. Starting from a brief review of the European policies on digital transformation, the essay highlights the main aims of the RE-EDUCO project and its actions, focusing on the training pilot for teachers and on its learner's centered methodology. The last part of the paper is dedicated to discuss the results of the course assessment, the strengths and criticalities that emerged.*

Keywords: online learning, digital skills, teachers 'training, innovation training models, professional development

Abstract: *Il saggio descrive l'esperienza del modello di formazione online per insegnanti, ideato dall'Hellenic Open University (HOU) nell'ambito del progetto RE-EDUCO, co-finanziato dal Programma Erasmus+. Il corso di formazione online per insegnanti mirava ad affrontare le potenziali carenze di competenze digitali e migliorare le capacità del personale educativo nell'incorporare efficacemente approcci e strumenti di formazione online innovativi. Partendo da una breve rassegna delle politiche europee sulla*

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trasformazione digitale, il saggio mette in luce gli obiettivi principali del progetto RE-EDUCO e le sue azioni, soffermandosi sul corso pilota per insegnanti basato su una metodologia student centered. *L'ultima parte del paper è dedicata alla discussione dei risultati della valutazione del corso, dei punti di forza e delle criticità emerse.*

Parole chiave: online learning, competenze digitali, formazione degli insegnanti, modelli di formazione innovativi, sviluppo professionale

Introduction

Digital technologies permeate our lives and they are changing organisational and production models. The sudden and continuous changes of the labour market due to technological innovation require an adequate, and equally fast, process of adaptation for those who have to enter it. About half of the world's current jobs will disappear quite soon, partially offset by the birth of new jobs that do not exist as yet and cannot even be imagined (Manyika *et al.*, 2017).

The new jobs will increasingly ask to become "multidisciplinary architects of socio-technical systems", it will be necessary to be able to have a knowledge that ranges in different areas and the required tasks will probably no longer refer to the role of an individual, but will become more and more focus on the centrality of the team (Butera, 2017).

The management of similar disruptive scenarios cannot be left either to chance or to self-regulating market mechanisms which, over a period of thirty years of uncontested development, have eloquently revealed their weaknesses in terms of the depletion of collective resources, of the failure to redistribute the enormous wealth produced, of financial speculation, of the widening of

poverty brackets and of the harshening of nationalistic, cultural and religious clashes on a global scale etc[1].

As Toynbee recalls, "the effects of the industrial revolution show that free competition can produce wealth without producing well-being" (2004: 78). Despite all this, virtuous experiences are to be found here and there in the world, even in Italy. These are experiences which strive to create critical mass and establish themselves as an alternative. The difference lies mainly in the ability of political and managerial leadership to foresee solutions to problems, but also in their ability to view the reality with awareness and intellectual honesty, without either alarmism or facile enthusiasm.

In this dynamic scenario, it becomes necessary to acquire and develop adequate digital skills; in particular, the educational system is called to assume a leading role, as well as a great responsibility, in educating the ruling class and workers of the future, who will have to learn always and, in any context, in the Lifelong Learning frame: «Digital literacy is a must, the more so in a post-Covid-19 world. Practically all further learning and jobs in all sectors will require some form of digital skills, yet on average two in five Europeans aged 16-74 are lacking these skills» (COM/2020/624 final).

With the aim to describe this complex challenge, in this short essay we discuss the experience of an ongoing Erasmus+ project, RE-EDUCO[2], with specific focus on the teachers' training

[1] See, among others, Capogna (2020).

[2] The essay is part of a wider research project "RE-EDUCO – Rethinking Education Competencies. Expertise, best practices and teaching in digital era", carried out within the Erasmus+ Programme of the European Union, in the framework of KA2 - Strategic Partnerships for School Education (2020-2023) and focuses specifically on the outcomes of the training action designed by the team of the Hellenic Open University (HOU), leader partner of the Intellectual Output 2: http://re-educo.eu/wp-content/uploads/2022/01/Syllabus.pdf.

experiences, starting from a brief review of the European policies on digital culture (§1), an overview of the RE-EDUCO project values and objectives (§2); the implementation of a student-centered training for teachers (§3) and a brief follow up of the training path from the teachers' point of view (§4).

European Policies on Digital Transformation

Education plays a particular role in providing young people and adults with knowledge, soft and hard skills, offering an opportunity to develop skills in a knowledge-based and increasingly digitized economy. The EU recommendations, which underline the importance and usefulness of digital technologies, specify that the acquisition of adequate digital skills must also make possible to understand the limits and risks of technologies, so that they are used in a conscious, responsible and ethical way (2018/C 189/01).

In response to the Council resolution on education and training of February 2020 which stressed that no action had yet been taken to address the problem of the digital skills gap, as urged by the *Annual Sustainable Growth Strategy 2020* and considering the importance of improving the digital literacy of people to thrive in the digital environment, on 30 September 2020, the Commission approved two initiatives involving the education and training sector: the creation of a European Education Area and a new Action Plan for digital education (COM/2020/624 final).

The creation of a European Education Area will be directly linked to the European Skills Agenda, VET policies and the European Research Area to exploit knowledge as a key element for a prosperous Europe based on the principles of inclusion, mobility and innovation identifying six dimensions of intervention: 1) Quality; 2) Inclusion and gender equality; 3) Green and digital transitions; 4)

Teachers and trainers; 5) Higher education and 6) Geopolitical dimension.

The 2021-2027 Digital Education Action Plan sets out two priority areas to fight against exclusion and inequalities: 1) fostering the development of a high-performing digital education ecosystem and 2) Enhancing digital skills and competences for the digital transformation (COM/2020/624 final).

In the first priority, the Commission intends to take the following initiatives:

- Encourage dialogue between member countries so that they create the conditions for defining a recommendation document of the European Council on online and distance learning;
- Elaboration of a European framework for the contents of digital education while respecting the cultural diversity and creativity of the different countries;
- Support the Gigabit connectivity of schools, as well as connectivity in schools, through European funding for Internet access and the purchase of digital equipment, applications and e-learning platforms;
- Support digital transformation projects at all levels of education and training;
- Support digital pedagogy through Erasmus projects and support teachers in the acquisition and development of digital skills. To encourage this last aspect, the creation of an online tool for self-assessment of teachers' digital skills called "Selfie for teachers" is planned.
- Establish ethical guidelines on artificial intelligence and the use of data in teaching and learning for educators and support research and innovation, under Horizon Europe, in this area.

The second strategic priority aims to develop basic digital skills starting from early childhood and develop advanced digital

skills capable of encouraging the increase of digital specialists and ensure equal gender representation in both studies and digital careers. To facilitate the achievement of the objectives identified, the Commission intends to adopt the following measures:

- develop common guidelines for teachers and teaching staff aimed at promoting digital literacy and tackling disinformation;
- update the European digital skills framework (DigComp) to include artificial intelligence and data-related skills;
- create a European Digital Skills Certificate (EDSC) that is recognized and used by stakeholders (governments, employers, etc.) of member countries;
- propose a Council recommendation on improving the provision of digital skills in education and training;
- encourage member countries to increase participation in the International Computer and Information Literacy Study (ICILS)
- Promote the development of advanced digital skills also through the use of target advanced digital skills development though steps such as extending the Digital Opportunity traineeships to VET learners and apprentices, and create professional development opportunities for staff of educational institutions (teachers, trainers and other staff involved in teaching).
- Take initiatives to encourage female participation in courses of STEM (science, technology, engineering and mathematics) with the European Institute of Innovation and Technology (EIT) and support the EU STEM Coalition and define university curricula that are able to attract and therefore increase the presence of women in engineering courses and ICT based on the 'STEAM' approach.

In support of the decisions of the European Commission to adopt the aforementioned strategies, there are many data such as

those that show that: currently 10% of families do not have a computer and/or are not reached by the broadband signal (Eurostat 2021); 44% of people between 16 and 74 do not have basic digital skills; less than 40% of teachers in Europe feel ready to use digital technologies and this data also shows a clear lack of homogeneity across Europe (OECD, 2018). Teachers and school leaders who participated in the 2018 OECD's Teaching and Learning International Survey (OECD, 2019)[3] declare that schools are open to use digital technologies in teaching practices but at the same time, prior to the Covid-19 crisis, their level of digital competence is not so high: only the 39% of teachers in the EU felt well or very well prepared to use digital technologies for teaching, with significant differences across Europe.

More than half of the teachers had participated in professional development activities that covered the use of digital technologies for teaching and learning, but, on average, 16% of teachers still

reported a strong need for professional development in the area of digital competences.

Even starting from these data, the European Commission, recognizing the need and the indisputable advantages of digitalization, is aware that the process hides pitfalls, such as the risk of increasing the digital skills gap and, consequently, further accentuating the regional and social divisions in the EU. On the other hand, the skills gaps also underline the differences in education levels, largely due to the socio-economic status. Therefore, it is necessary that the potential of digital technologies become a real advantage for the citizens of the European Union and this has not yet been realized.

[3] OECD (2019), TALIS 2018 Results (Volume I): *Teachers and School Leaders as Lifelong Learners*, TALIS. Paris: OECD Publishing.

Expertise, best practices and teaching in the Digital Era: the case of RE-EDUCO Project

In this dynamic context, the RE-EDUCO Project – *Rethinking Education Competencies. Expertise, best practices and teaching in Digital Era* (www.re-educo.eu), funded by the Erasmus+ Programme of the European Union, in the framework of the key action *Strategic Partnerships for School Education*, responds to the challenge of encourage the production, experimentation and sharing of new approaches and training methods in the field of digital culture, improving the possibilities for growth and exchange, widening the choices for young people in private and professional life. the project was born from the need to produce and test, at a transnational level, a range of methodologies and best practices to improve the skills of students and teachers and encourage them to embrace digital innovation in their lives, career opportunities and educational environments. With the aim to achieve these goals the project:

- provides to institutions, students and innovative sectors a framework to better understand the potentiality and risks of digital technologies;
- encourages the cooperation and strengthen the collaboration among training institutions, research centres and businesses;
- offers to students and teachers the opportunity to increase their digital skills, through the collaboration with digital companies and the participation in creative active learning paths;
- promotes the development of new learning paths and pedagogical approaches amongst teachers;
- encourages the sharing of materials and ideas through the promotion of an international community of best practices;

- shares best practices for the dissemination of digital culture and integrated new educational approaches;
- provides policymakers with a framework of information and data, useful for leading their strategies and policies towards a more informed and human-centered and people-oriented digital culture.

RE-EDUCO project has built a partnership among universities, research centres, training institutions, schools, associations, business accelerators and incubators, including different experiences, approaches and perspectives. The project includes several partners from different countries: Italy Link Campus University and the Digital Technologies Education & Society research centre (Applicant) and the Italian Digital Revolution Association (Italy); the Hellenic Open University (Greece).

Insomnia, a Business Accelerator and Incubator (Spain); the Cyprus Computer Society (Cyprus); OMNIA, the Joint Authority of Education in Espoo Region (Finland).

The project aim is to understand the digital transformation and emerging skills recorded by the world of work, offering important sources of information to students, teachers, families, policy and decision makers and experimenting a new training model for students and teachers, which aims at contributing to the creation of digital competences in order to address the new questions of the knowledge and information society in relation to education, raising also the quality of teaching as required by all European documents.

The project's activities are developed in 34 months, following a stepwise approach.

The first step consists in the definition of the entire detailed project design, shared with all partners in order to define a common theoretical framework related to: the digital revolution and its effects

on the labour market, employment and competences and the methodology, instruments and outputs that will be elaborated. With this step, a general framework is provided to better understand the potentialities offered by digital transformation in strengthening learning processes, fostering employment and professional growth, promoting new active citizenship. Each country partner has elaborated national research on the bases of local data set for secondary data extraction, related to local labour markets trends, focusing on: a) needs analysis and industry 4.0; b) new digital profile;

c) new emerging skills for digital society; d) skills gaps in the digital field. After this needs analysis 'activity the consortium has provided informative and training courses for students which offered a set of information, orientation and training activities to empower their digital skills.

In a second step, a training course for teachers was created to empower digital skills and to favour the sharing of best practices at national and international level, following the model of Teaching Learning Centres, as requested by all European documents focused on the quality of learning issues. This is the focus of the following paragraph.

In the third step, a School Contest will be organized by the consortium as a national and international laboratory on digital start-ups for digital innovation. This action includes two correlated activities: 1) Orientation paths and transversal skills. Research and enhancement of talents; and 2) Digital start-ups for digital innovation.

In the fourth step the RE-EDUCO project will offer *Active Learning for digital innovation* to reinforce students' digital skills. The course will be articulated into 2 modules and one workshop:

- 1 module on computer essentials and online essentials;

- 1 module on word processing, spreadsheets and presentation modules;
- 1 workshop on presentation skills.

During the last step, the consortium will review, update and release all the materials (analysis, methodologies, tools, suggestions, school contest, start up, community etc.) produced during the whole project.

The Re-Educo Pilot Training. A Learners' Centered Path

Most learning is not the result of instruction.
It is rather the result of unhampered participation in a meaningful setting.

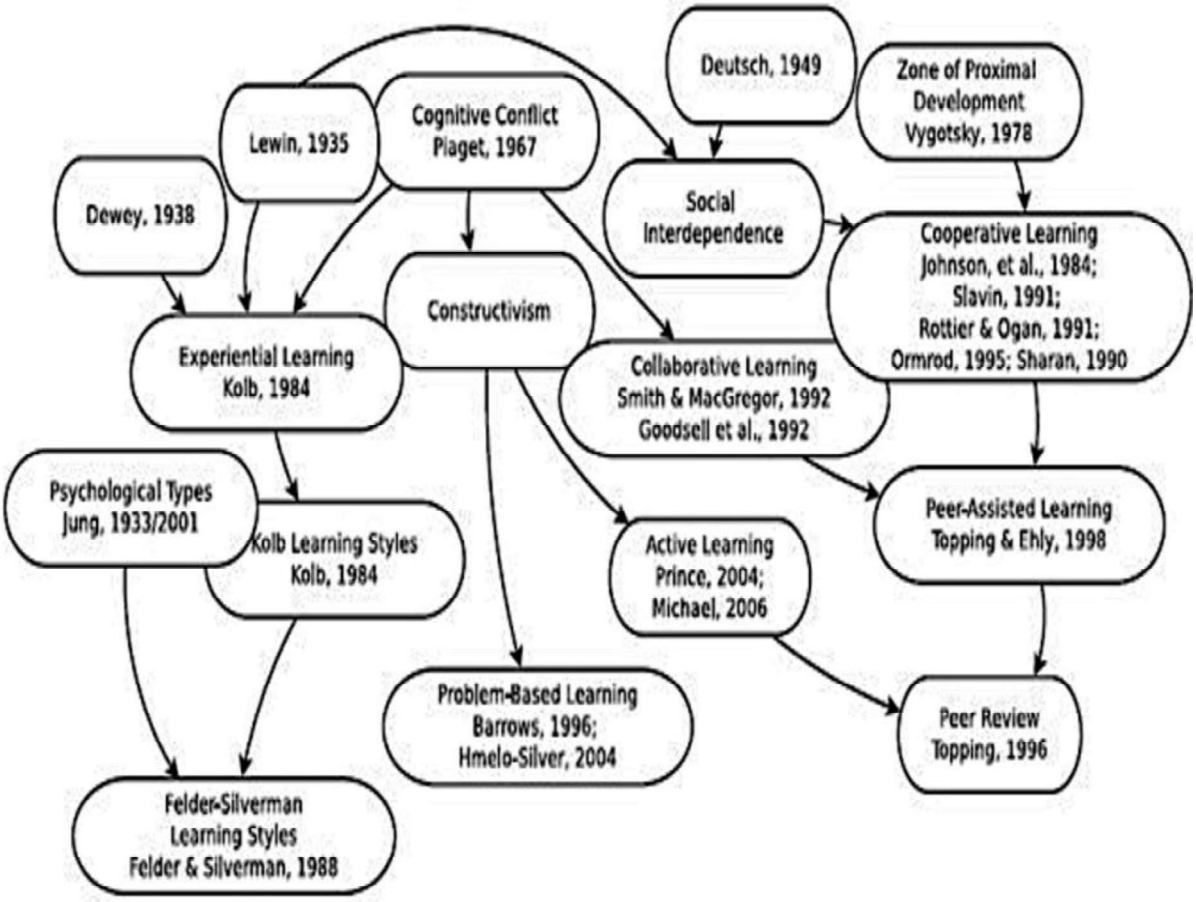
Ivan Illich

Education worldwide has undergone significant changes in the last 50 years. In recent years, the traditional model *teacher-based* has given space to a *student-based* model, more attentive to build community-driven environment targeting not only cognitive processes but also motivational, subjective and emotional factors in order to favour self-regulated learning and to develop supports student empowerment, conversations, critical thinking skills, and problem solving.

Student-centered approach encourages students to be active in and to take control of their own learning. Student-centered approach (Prince 2004; Michael 2006) includes student-student collaboration, student reflection on their learning processes, and explicit instruction in the learning and thinking skills students need to effectively manage their learning in the present and future. Students are not on their own to decide what and how to learn.

Through meaningful student-student interaction, students learn more in community with peers and others than they would during directed instruction (Smith & MacGregor 1992, Topping & Ehly, 1998, Lave & Wenger 2006). The role of the teacher continues to be to guide and structure the learning experience. Within a structure set by the teacher, students have choices and opportunities to reflect on the consequences of their choices (Fig.1).

Figure 1: History of Student-centered approach Chart example



Source: Kadry, S., Safieddine, F. (2016). Cooperative Active Learning Methodology in Mathematics. Proceedings of EDULEARN16 Conference 4th-6th July 2016, Barcelona, Spain pp. 4039-4045

The role of the teacher is not only to communicate knowledge, but to act as initiator, frame builder and consultant. Professional development of teachers should be included as an important part of the scholarship of teaching and run in parallel to the active student-centered approach used for students to enable lifelong learning among teachers as well.

We can summarize essential elements of Student-Centered teaching and learning arose, based on the worldwide literature:

a) *Inclusive and Responsive Classrooms*, feeling students valued. To thrive in school and beyond, students must feel valued. Teachers create inclusive and responsive classrooms when they adapt to students' needs, build social-emotional skills, and honour diverse perspectives.
b) *Flexible Instructional Models*. With new technology and instructional models, teachers can transform the student learning experience to make it data-driven, personalized, and continuously relevant.
c) *Curriculum and Academic Content.* When teachers effectively shift to more rigorous, student-centered curriculum, they can transform classrooms into engaging, productive, and joyful learning spaces.

Digital technologies then, have accelerated this process of decentralization of the teaching-learning process in space and time, changing the concept of education. Education become a situated experience available at any time and at any place. The use of ICTs as mediating devices to support student learning, include aspects of assessment, tutoring, and instruction. Web-based learning, computer-based learning, virtual classrooms and learning environments, and digital collaboration are only some of the applications and procedures involved. It entails the delivery of content via a variety of electronic media (e.g., the internet,

intranet/extranet, audio-and videotape, satellite broadcast, interactive television, and so on) as well as access to resources that inform learners of new ideas, which they can then reflect on and integrate into their existing knowledge.

Computers can be used to facilitate collaborative learning practices, in which students are encouraged to negotiate shared meaning and work as a team rather than competing for a common objective. Web logs (blogs) and wikis, for example, are social media and social software applications that provide new ways to communicate, access knowledge, create content, and collaborate online. When integrated into curriculum design, appropriate use of technology is expected to encourage the development of new teaching techniques as well as enhance and enrich learning experiences. 'E-learning' (or 'electronic learning') and 'digital learning' are other terms for the same thing.

RE-EDUCO online training course for teachers took up the challenge of digital transformation in Education, addressing potential digital skills shortages and improve the capacities of the educational professionals in effectively incorporating innovative online training approaches and tools.

The training course for teachers, developed by the Hellenic Open University (HOU) took place from 18 October to 8 November 2021 and involved 636 participants from all partner countries. The 32% of teachers have finished the course in time. The others finished it asynchronously with the mentorship of the local partner. The RE-EDUCO training course for teachers was delivered online in four (4) two-hour online sessions and included 6 training modules:

Module 1 – Student Centered Learning Techniques
Module 2 – Peer Assisted Learning Strategies
Module 3 – Technology Enhanced Assessment
Module 4 – Technology Enhanced Learning Tools
Module 5 – Module Design – Carpe Diem Workshops

Module 6 – Managing RPL Assessments and Portfolios

HOU has also developed an assignment to be implemented in groups and was mandatory for receiving the certificate for successfully completing the training course for teachers. The required study time for the assignments was estimated to be 4 hours. The training course was realized via a fully online learning model in English without having an enrollments cap. There were no prerequisites and was free of charge. Digital learning material was developed for the training modules, which was made available through the RE-EDUCO e-learning platform. Participants were able to navigate to the training modules, in order to read their descriptions and learning objectives and study the learning material.

The course integrated the following elements to guarantee the quality in a professional development programme for teaching staff.

An Interactive Student - centered Approach in Professional Development Programmes: Participants became students in this process and learnt how to design courses that promote active student-centered approach and information literacy in the classes that they teach. In this way teachers learnt how to work towards effective student-centered learning over efficient teaching, to ground information literacy contextually rather than to offer general bibliographic instruction and to use inclusive multiple styles of learning over exclusive pedagogy.

Focusing Teachers' Knowledge about the use of Technological Tools in Learning: Participants learnt about using technology in a manner which is relevant to their subject-discipline and to their students, rather than in a random manner.

Using Constructive Criticism to Improve the Teaching Process: Teachers were not only given the opportunity to develop their own approaches to learning in their respective courses but are also given

the space to provide constructive criticism to their peers and share their experiences in a dialogue as a community of scholars.

Focusing on Problem-Solving: Participants were asked to identify problems they have encountered in their teaching which were then discussed in order to identify potential strategies to overcome them. Learning by doing in professional development programmes respects the academic freedom of teachers to critically evaluate which practical mode of teaching would be better. This mirrors the freedom and the concomitant responsibility of any student engaged in a learning process which is student-centered.

Applying Ideas and Teaching Methods in Practice:

This can be applied by means of a group project which allows participants to try out and experience forms of interactive teaching in a supportive environment.

Be members of learning communities and communities of practice: be an active member of learning communities and communities of practice to discuss with peers, to exchange experience and good practices with other teachers, to learn based on the knowledge and the experiences of others.

Seventy-three (73) working groups were created and seventy-three (73) lesson plans were uploaded on the course platform. Most of the lesson plans were interdisciplinary as the team members had different specialties. They utilized educational methods, approaches and techniques included in modules 1, 2, 5, and 6 as well as tools included in modules 3 and 4.

The most common Student-Centered Learning Techniques they used were Buzz groups (short discussion in twos), Snowballing (turning buzz groups into larger groups), Cross-overs (mixing students into groups), Quizzes, Writing reflections on learning (duration of 3-4 minutes), Student presentations, Poster presentations, Students producing mind-maps, Group discussion, Team work, Debates, Writing media articles.

They also used Peer Assisted Learning Strategies such as Peer Assisted Learning, Peer Assisted Teaching, Reciprocal Peer Assisted learning, Collaborative learning. The most common assessment tools they used were Quizzes, tests, Concept Maps, Knowledge Surveys, Portfolios, Oral or Poster Presentations, Rubrics and Peer Review. The most common technology enhanced tools they used were Hot Potatoes, Quizzes with Google Forms, Kahoot, Online Quiz Creator, H5P, MindMup.

They also used tools such as Webex, Edmodo, Animoto, Kahoot, Padlet, Quizlet, Quizizz, Gimkit, Scratch to organize learning activities for their students. During the voluntary presentation of assignments, substantive discussions between the participants with strong interaction took place.

The quality of the assignments as well as the discussions between the participants showed the interest of the participants for the course content and their willing to learn new methods, techniques, and tools.

The Re-Educo Pilot Training. A follow up from the teachers' point of view

The online course for teachers was assessed in three dimensions: the platform, the course content and organization and the overall learning experience.

To evaluate the course and its basic dimensions such as, e-learning platform, learning content course structuring and learning experience of the participants, as well as achievement learning outcomes, two approaches were used:

a. Assignments for evaluation of the learners
b. n anonymized online questionnaire for evaluation of the course and the platform.

Assignments were employed to evaluate whether learners achieved the course's learning outcomes and to what extent. Participants were invited to create groups of 3 or 4 persons and to work collaboratively for the assignment. The assignment consisted of the design of a lesson plan for one of the subjects' participants teach, using techniques and tools they became familiar with during the seminar. During the last meeting participants were invited to present their work and to discuss with their peers.

To evaluate the effectiveness of the online course we designed an anonymized electronic questionnaire which researched the opinions of the participants who complete the course. The online survey questionnaire consisted of 14 items using a 5-point Likert scale, and 1 open-ended question to capture any additional comments were used. Below we provide the questions of the questionnaire (Tab. 1).

Table 1: Survey structure

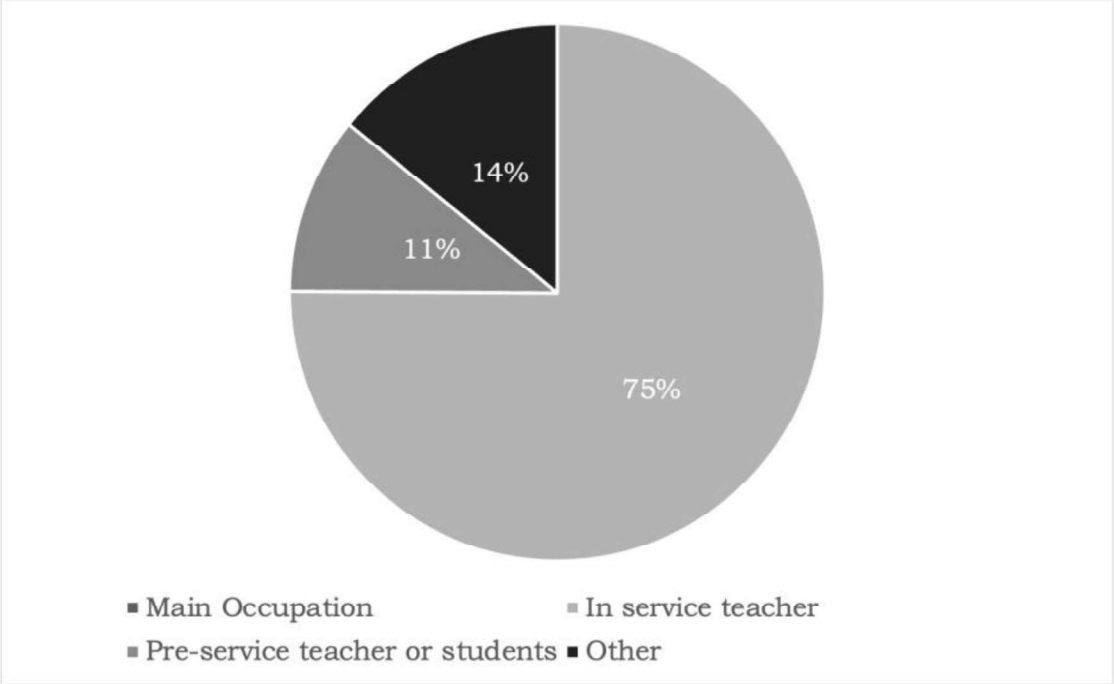
Platform		
Q1	The course platform was easy to use	5-Likert
Q2	The organization of the course in the platform was clear	5-Likert
Q3	The platform options were consistent	5-Likert
Course content and organization		
Q4	The overall objectives of the course were clearly stated	5-Likert
Q5	The content was presented in a clear and comprehensible manner	5-Likert
Q6	The learning materials were interesting	5-Likert
Q7	The course covered contemporary topics	5-Likert

Q8	The assessments activities helped me to gain a clearer understanding of the learning materials	5-Likert
Q9	The topics were relevant to my work	5-Likert
Q10	The workload was in line with my expectations	5-Likert
Q11.	The trainer supported the learning process efficient	
Overall learning experience		
Q12	The course was engaging	5-Likert
Q13	I enjoyed the course	5-Likert
Q14	Overall, I feel like I achieved my personal goals for this course	5-Likert
Q15	Additional comments	Open

Source: RE-EDUCO Project, Training course for teachers. Implementation and evaluation Report by the Hellenic Open University

Although the course evaluation questionnaire was not compulsory so as not to cause any additional workload to the participants, the participants were strongly advised to complete the course. 169 of the 214 participants who completed the course filled voluntarily the questionnaire and expressed their opinions.

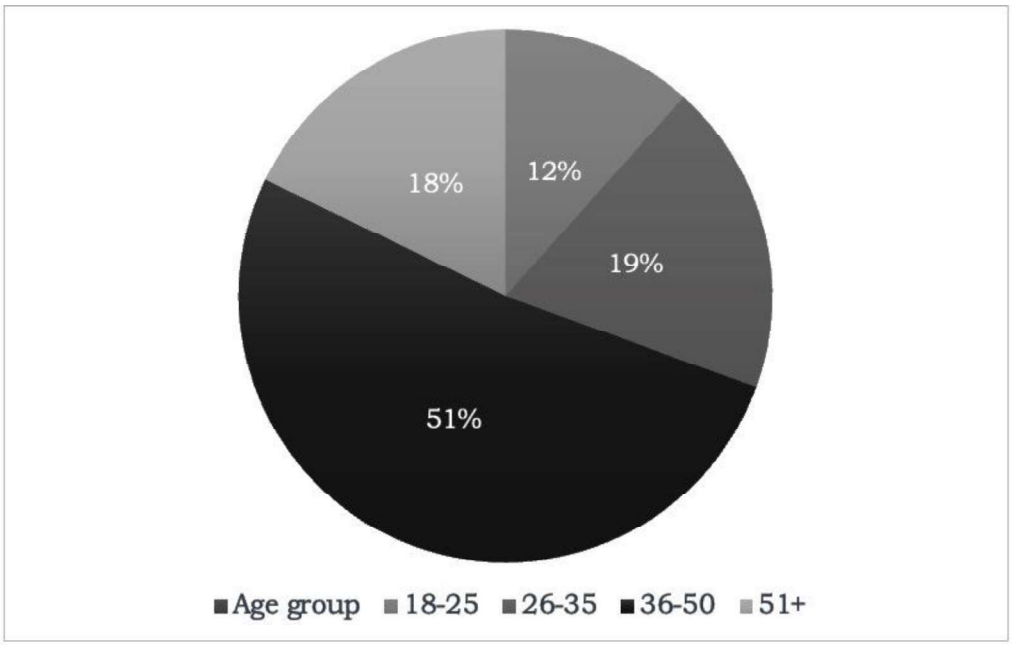
Figure 2: Occupations of respondents

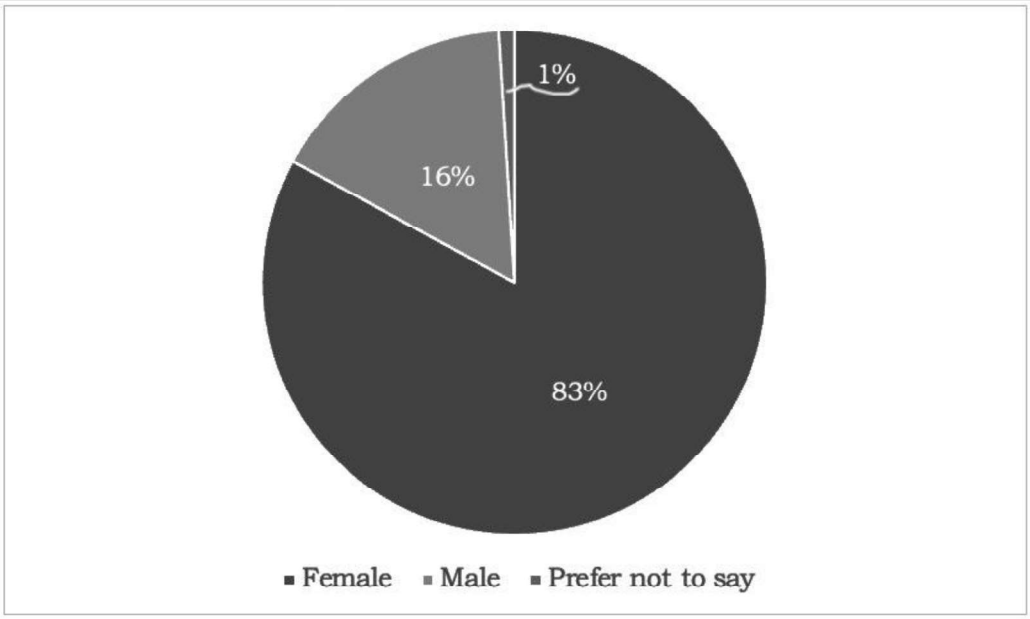


Source: RE-EDUCO Project, Training course for teachers. Implementation and evaluation Report by the Hellenic Open University

The majority of the respondents were in-service teachers (Figure 2), within the age group of 35-50 and females (Figure 3). This distribution of results shows that in-service teachers who most probably serve for several years in schools, are in need of seminars on contemporary ICT topics.

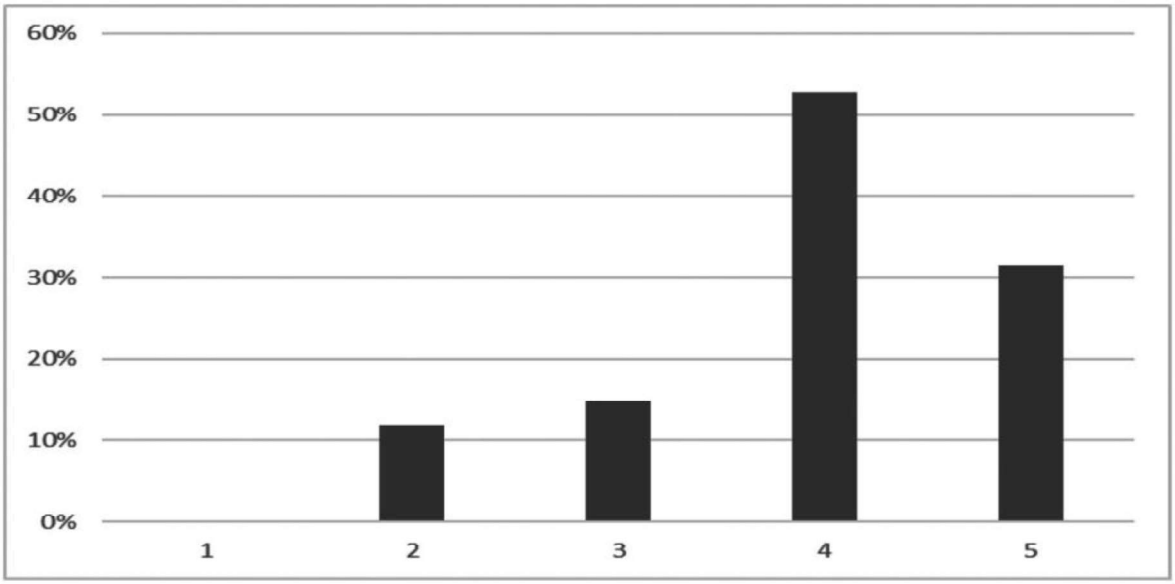
Figure 3: Age distribution and sex of respondents





Source: RE-EDUCO Project, Training course for teachers. Implementation and evaluation Report by the Hellenic Open University

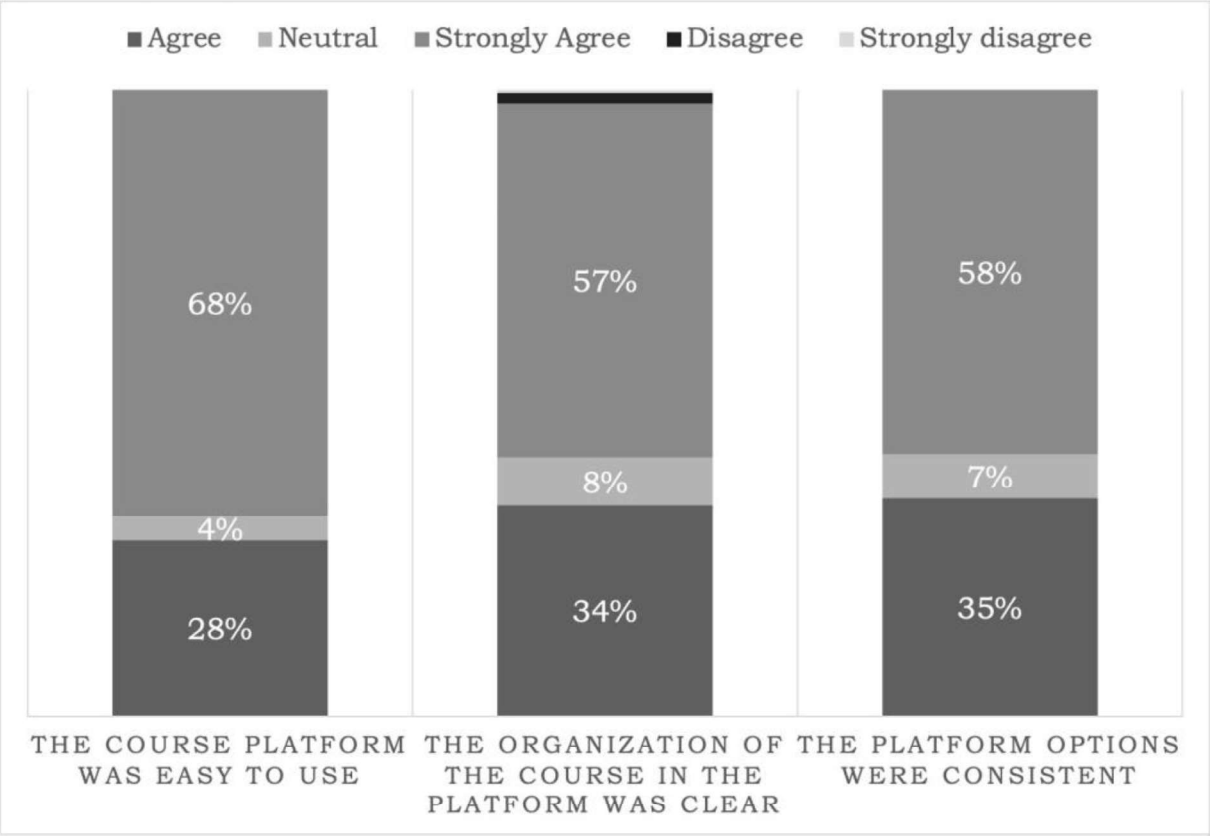
Figure 4: Initial ICT skills of the respondents: my ICT skills are…



Source: RE-EDUCO Project, Training course for teachers. Implementation and evaluation Report by the Hellenic Open University

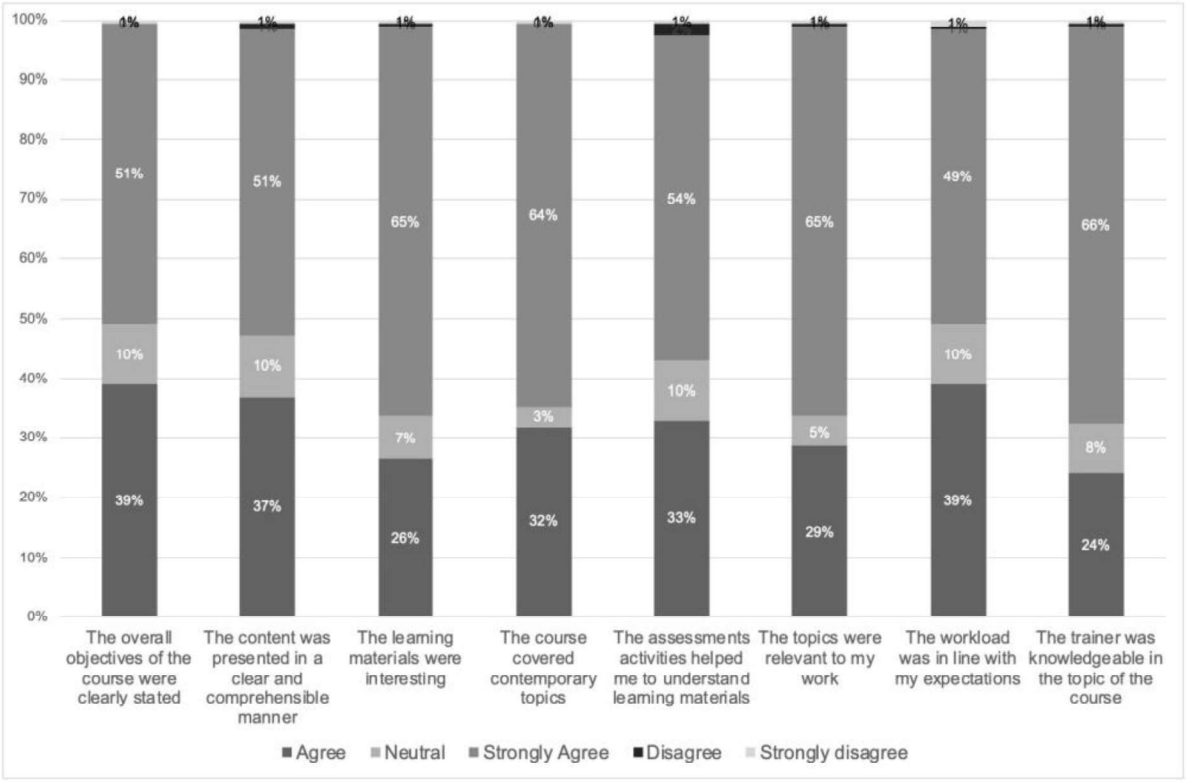
As we see in Figure 4, most of the respondents had a high initial ICT usage expertise (in a Likert scale from 1 to 5). Probably because the teachers who serve in the schools or yearn to became teachers, have attended many educational activities related to ICT either in the University or in other adult training actions. Therefore, it can be argued that they need more contemporary and advanced ICT topics to enhance their teaching activities.

Figure 5: Platform experience



Source: RE-EDUCO Project, Training course for teachers. Implementation and evaluation Report by the Hellenic Open University

Figure 6: Course content and organization



Source: RE-EDUCO Project, Training course for teachers. Implementation and evaluation Report by the Hellenic Open University

The respondents were overall satisfied with the platform and the organization of contents. Almost all agree/strongly agree (approx. 86% to 96%) that the course covered contemporary topics which presented in a comprehensible manner, they were relevant to their work duties and the role of the trainer was quite supportive (Figure 5-6).

Some more critical assessments have been reported about the support of the trainer and the clarity of objectives and provided materials.

There was a last free open question where the participants expressed provide additional comments. They gave mainly positive comments for the course, and some suggestions about future

learning actions. some teachers suggest to improve synchronous interaction by pools or small discussions in sub-groups, using also edtech tools. Furthermore, they suggest to use and small self-assessment quizzes at the end of each module in order to check our gained knowledge.

Concluding remarks

Since the outbreak of the Covid-19 pandemic, digital innovation has become a key political priority across the European Union with a focus on the importance of a high-quality and inclusive digital education and training. A high-performing digital education ecosystem as the first strategic priority of the *Digital Education Action Plan 2021-2027* requests digital education content and training in digital skills for staff, including digital teaching methods. It will therefore be vital to build the conditions to empower educators in adopting innovative methods to make most sustainable choices collaborate; engage in peer learning and share their experiences. In this general framework of acceleration of digital transformation processes in the education system, the RE-EDUCO training path tried to build a trusted digital education ecosystem based on accessibility, inclusiveness and a learner-centered design.

As we have previously seen the evaluation results of the RE-EDUCO training path were quite positive and encouraging in all dimensions. Specifically, the usability, layout, organization and ease of navigation were evaluated positively by more than 90% of the trainees who participated in the evaluation (n = 169). The answers regarding the quality, usefulness and relevance of the educational material to the work tasks of the trainees fluctuated at the same levels. Finally, in percentages that exceeded 85%, the

trainees agreed that they enjoyed their participation in an interesting program that covered modern and applied topics.

The course covered contemporary topics relevant to the teaching duties of the teachers. This is very important, because as it was stated by the participants, they already had adequate ICT skills prior to the course. Teachers believed that the course was well organized and the assessment activities helped them gain a better understanding of the learning materials.

At the same time, in the final free text comments, some asked for more interactive activities and more interaction with the other trainees. This was partly facilitated through the collaborative final project assignments, but with a more manageable number of participants more collaborative activities could be completed during the training sessions. It is worth to notice that most of the lesson plans included in the assignments were interdisciplinary and teachers utilized educational methods, approaches and techniques included in the course modules. The quality of the lesson plans and the discussions between the participants showed the interest of the participants for the course content and their willing to learn new methods, techniques, and tools. During the last session, several of the participants expressed their interest to present their assignments to the class. This is very important and should be enabled in every teacher training activity, as it helps students to evolve professionally, to discuss their work with other teachers and in general to become skillful in their work. In our course, a small number of presentations was finally possible, due to time restrictions. But teachers were asked, should they want, to share their works in the forum of the course.

In spite of the strengths highlighted, there are some critical elements to consider in view of an improvement of the proposed model: the high percentage of dropouts is the most evident element to be analyzed. Despite the number of registrations, only 32% of

teachers managed to finish the course within the shared calendar. This is probably due to four factors: the first concerns the level of digital skills of the teachers. Those who managed to finish the course are also those who already had a high level of digital skills, and consequently a high degree of autonomy in carrying out the assigned tasks. The second has to do with the balance of working time with the time dedicated to training and family life: the time in which the course was held in synchrony for many coincided with personal and family commitments. The third element to consider is the English language which may have discouraged the participation of less competent teachers. Last but not least, the video stress accumulated during the pandemic emergency: teachers in two years of the pandemic have seen the number of hours in front of the PC considerably increase, for lessons, meetings with colleagues, coordinators and parents. Therefore, it was difficult to ensure a constant presence during the proposed course.

The issues related to drop out were addressed by leaving free access to the platform and materials, reviewed by each partner, with the possibility of a replication of the path at a local level, in the languages of the respective countries of origin and according to personalized calendars based on local needs. These on-going measures made it possible to achieve the stated objectives, with greater attention to the personalization of the learning path with respect to national contexts.

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