Quaderni di Comunità

Persone, Educazione e Welfare nella società 5.0

Community Notebook

People, Education, and Welfare in society 5.0

n. 1/2023

ACTIVE CITIZENSHIP FOR THE DIGITAL SOCIETY.
EXPERTISE, BEST PRACTICES AND TEACHING
IN THE DIGITAL ERA

edited by
Stefania Capogna, Manuela Minozzi, and Danila Scarozza

eurilink
University Press

Iscrizione presso il Registro Stampa del Tribunale di Roma al n.
172/2021 del 20 ottobre 2021

© Copyright 2023 Eurilink
Eurilink University Press Srl
Via Gregorio VII, 601 - 00165 Roma
www.eurilink.it - ufficiostampa@eurilink.it
ISBN: 979 12 80164 61 2
ISSN: 2785-7697 (Print)

Prima edizione, giugno 2023
Progetto grafico di Eurilink

È vietata la riproduzione di questo libro, anche parziale, effettuata
con qualsiasi mezzo, compresa la fotocopia

INDICE

EDITORIAL
Stefania Capogna, Manuela Minozzi, and Danila Scarozza 11

RUBRICHE 19

1. Cultivating International Teachers Community of practice by Non-Formal Professional Development
Fotis Lazarinis, Theodor Panagiotakopoulos, Anthi Karatrantou and Achilles Kameas 21

2. From the idea to digital start up. Methodologies and tools
Lucia Gomez 33

3. A personalized active learning plan for students within the framwwork of the Erasmus+ RE_EDUCO Project
Alexandra Faka and Toumazis Toumazi 43

4. Community of practice EDU HUB: the training path
Fulvio Benussi and Manuela Minozzi 59

SAGGI 71

1. Competence profiles update and impacts for the future digital society: an European perspective
Stefania Capogna and Danila Scarozza 73

2. Competence profiles updates for the future digital society: a comparative approach
Stefania Capogna and Francesca Greco 111

3. Social Innovation as a platform for hybridizing Education Systems
Dario Carrera, Melih Boyaci, and Domenico Maria Caprioli 149

4. Creating smart cities: skills and abilities to develop in young people
Valentina Volpi and Antonio Opromolla 193

5. Il ruolo delle tecnologie innovative nel contesto della cultura in materia di salute e sicurezza sul lavoro
Rosina Bentivenga, Emma Pietrafesa, Agnese Martini, Laura De Angelis, Raffaele Mariconte, Raffaele Palomba e Giuditta Simoncelli 221

APPROFONDIMENTI 263

1. Il concorso scolastico come buona pratica di educazione dei giovani
Sandro Zilli e Valentina Volpi 265

2. Guidelines, recommendations and tool for non-formal learning methods
Sirje Hassinen 273

1. CULTIVATING INTERNATIONAL TEACHERS COMMUNITY OF PRACTICE BY NON-FORMAL PROFESSIONAL DEVELOPMENT

by Fotis Lazarinis, Theodor Panagiotakopoulos, Anthi Karatrantou, and Achilles Kameas*

Introduction

Digitalisation of educational practices stands high on policy agendas at European and national levels. The COVID-19 pandemic caused the largest disruption of education in history having an impact on learners and trainers in all levels and types of education. This conjuncture greatly accelerated the digital transformation of all educational institutes requiring a transition to online learning models and tools (Liapis *et al.*, 2022). However, the educational staff and particularly those that teach more theoretical topics do not necessarily have the appropriate ICT knowledge and skills to successfully support online training (Lazarinis *et al.*, 2022, Panagiotakopoulos *et al.*, 2021a; Iatrellis *et al*, 2021). Indeed, schoolteachers' lack of digital skills is frequently reported in the literature as teachers are found to have insufficient capacity to develop learning activities with technological tools (Cruz and Diaz, 2016), while their skills readiness for online learning courses remains relatively low, especially regarding older teachers (Mirķe *et al.*, 2019; Capogna et. al., 2020).

* School of Science and Technology, Hellenic Open University, Patras, Greece.

Aiming to address this gap, the RE-EDUCO project focuses on teacher training to improve their digital culture and skills for sharing new learning methodologies through innovative pedagogical approaches. Being part of a comprehensive work plan, the RE-EDUCO online training course for teachers aimed to address digital skills shortages and improve the capacities of the educational staff in effectively incorporating innovative online training approaches and tools in the teaching and learning process.

1. The RE-EDUCO training course for teachers

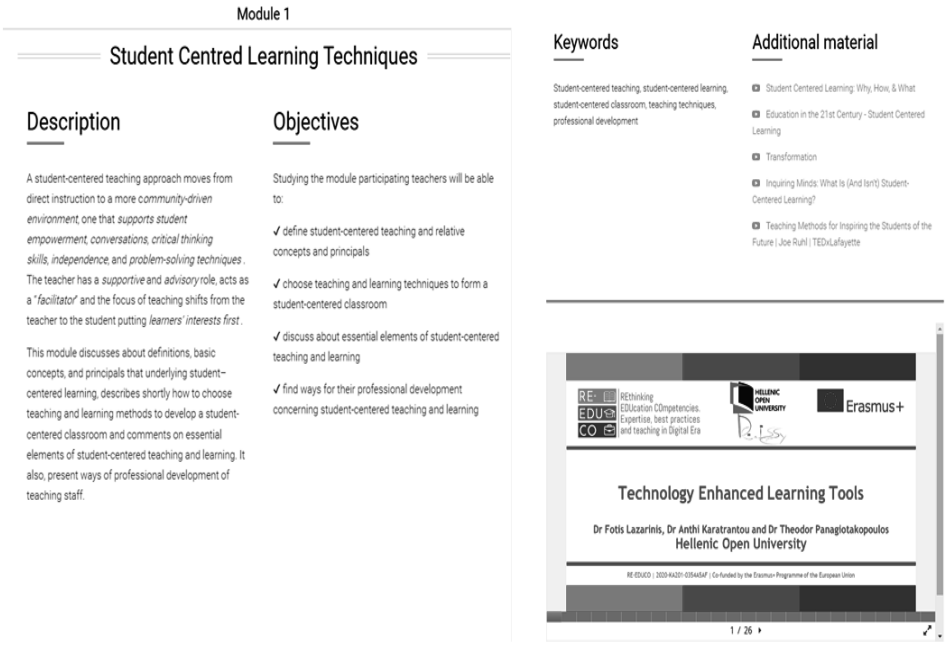
The RE-EDUCO training course for teachers was delivered online. It included 6 training modules:

- Module 1 – Student Centred 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

The modules presented above were derived from a review of the literature on the skills needed for student-centred pedagogical approaches. The RE-EDUCO project consortium identified these modules as particularly important for teachers with low competence in educational technologies who require fundamental knowledge. We have also developed an assignment which should be implemented in groups and was mandatory for receiving the certificate for successfully completing the RE-EDUCO 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 enrolments 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[1]. The home page of the RE-EDUCO training course provided the description of the project, the course objectives and syllabus, as well as access to all modules mentioned above. Participants were able to navigate to the training modules, to read their descriptions and learning objectives and study the associated learning material (see Fig. 1 for training module "Student Centred Learning Techniques").

Figure 1: Training module information



[1] https://elearning.daissy.eu/course/index.php?categoryid=1.

The course addressed professionals in the field of education including teachers, educators, facilitators, and tutors in secondary and higher education, as well as vocational education and training. Interested candidates should fill a registration form providing various personal and demographic information, such as age, country, and email. In total, 653 people were registered from 5 countries (Greece, Italy, Cyprus, Spain, and Finland) and 214 successfully finished the course, forming 73 teams that provided an equal number of assignments. 63% (n=135) of the participants were from Greece, 18% (n=39) from Italy, 11% (n=22) from Cyprus, 7% (n=15) from Spain and 1% (n=3) from Finland. In all counties the participants were mainly in-service teachers. Overall, most of the participants (approximately 85%) were in-service teachers with 10-15 years of experience and strong ICT skills. The remaining participants were pre-service (approximately 10%) and in-service (approximately 5%) teachers with more than 15 years of service and basic ICT skills.

2. Evaluation methodology

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) An anonymized online questionnaire for evaluation of the course and the platform.

3. Learners' evaluation

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 description is given below.

Description. The aim of this assignment was to design a lesson plan for one of the subjects the teachers taught. Within this lesson plan they had to describe one teaching activity using techniques and tools they became familiar with during the seminar. The assignment should have two parts: In the first part, they should define the title, the subject(s), the objectives, the duration, the age of the students, the techniques they used, describe the stages/phases of the teaching activity and design one or more assessment activities. They should describe what would happen in each stage/phase of the lesson and include one or more tools. In the second part, they had to use one of the tools they mentioned in the first part of the assignment and develop a short learning or assessment activity.

Deliverables. The deliverable should be a PDF which would include the lesson plan as well as the names and the mails of the team members. For the second part they could include screens of the learning/assessment activity or simply a link if the activity as online.

4. Course and platform evaluation

To evaluate the effectiveness of the online course we designed an anonymized electronic questionnaire (see Table 1) which researched the opinions of the participants who complete

the course. The questionnaire contained questions about additional demographics (sex, occupation, ICT skills, etc.), the platform, the content and organization and the learning experience using a 5-Likert scale. The questionnaire was based on various research works (e.g., Panagiotakopoulos *et al*, 2021b; Lazarinis *et al.*, 2022).

Table 1: Evaluation questionnaire

No	*Description*	*Type*
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
Q9	The assessments activities helped me to gain a clearer understanding of the learning materials	5-Likert
Q10	The topics were relevant to my work	5-Likert
Q11	The workload was in line with my expectations	5-Likert
Additional comments		
Q12	Suggestions for improvement	Open

5. Results

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. The high participation shows an increased interest of the participants.

Concerning the platform evaluation, most respondents found that the platform was easy to use, consistent and with a well-defined structure, as shown in Fig. 2.

Figure 2: Evaluation results for the platform

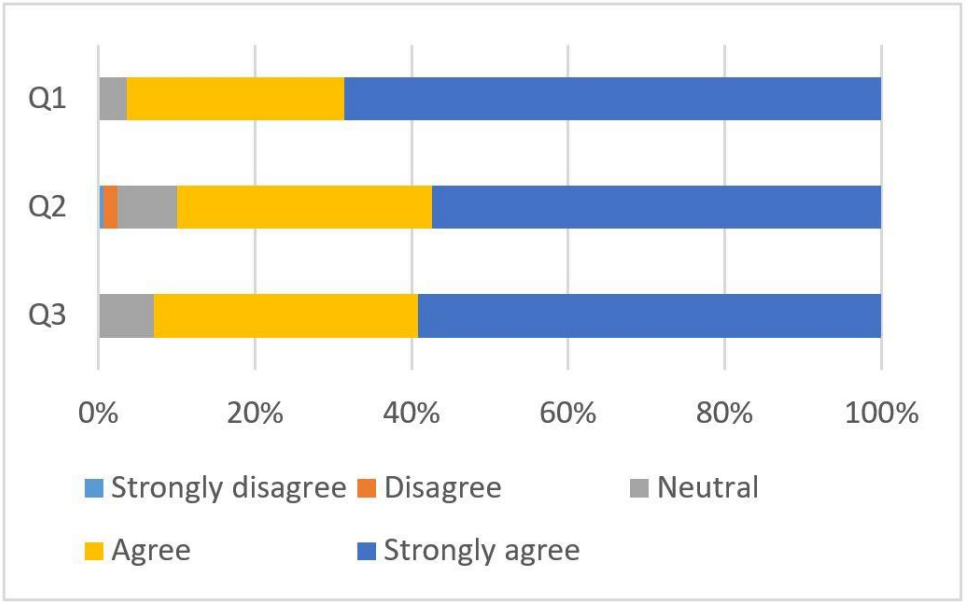
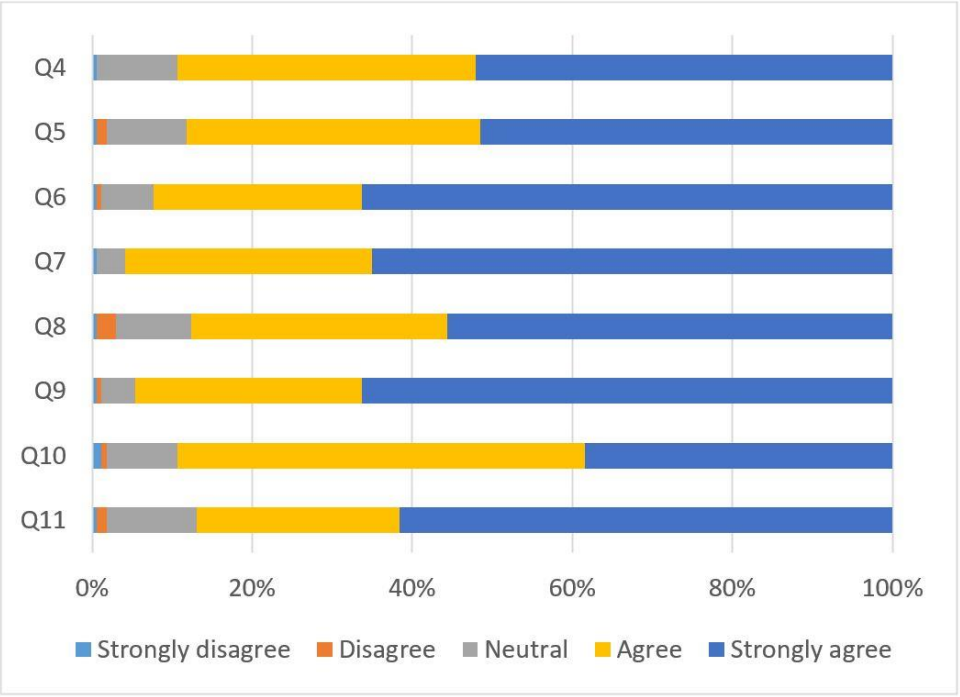


Fig. 3 shows the results to the questions evaluating the course. The respondents were satisfied with the platform of the course and almost all agree/strongly agree (approx. 86% to 96%) that the course covered contemporary topics which presented in a comprehensible manner, they were relevant to their work duties and the role of the trainer was quite supportive.

Figure 3: Evaluation results for the content and the organization of the course



As for the created lessons plans, a high level of diversity in terms of tools, methods and educational topics was observed. Most of the lesson plans were interdisciplinary as the team members had different specialties. The most common Student-Centred Learning Techniques they used were Buzz groups (short discussion in twos), Snowballing (turning buzz groups into larger groups), Crossovers (mixing students into groups), Quizzes and Writing reflections on learning (duration of 3-4 minutes). Participants also used Peer Assisted Learning Strategies such as Peer Assisted Learning, Peer Assisted Teaching, Reciprocal Peer Assisted learning, and Collaborative learning. The most common assessment tools were Quizzes, tests, Concept Maps, Knowledge Surveys, Portfolios, Oral

or Poster Presentations, Rubrics and Peer Review. The most common technology enhanced tools were Hot Potatoes, Quizzes with Google Forms, Kahoot, Online Quiz Creator, H5P, MindMup. Tools such as Webex, Edmodo, Animoto, Kahoot, Padlet, Quizlet, Quizizz, Gimkit, Scratch were also used to organize learning activities for their students. During the voluntary presentation of assignments, substantive discussions between the participants with strong interaction took place.

6. Conclusion

The RE-EDUCO training course included various contemporary topics with regards to digital technologies in education, attracting a very high number of registrations. The results of the course evaluation were quite positive and encouraging. Participants felt that the course covered contemporary topics relevant to their teaching duties of the teachers and thought that the course was well organized, and the assessment activities helped them gain a better understanding of the learning materials. In the final free text comments, some asked for more interactive activities and more interaction with the other peers. 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.

The quality of the assignments and the discussions between the participants demonstrated the participants' interest in the course content and their willingness to learn new methods, techniques, and tools. Feedback collected through formal (questionnaires) and informal (private discussions) channels indicated that the teachers were satisfied with their online course participation and had gained meaningful knowledge and useful

skills that they could immediately apply in the classroom. Across all countries, many teachers felt confident in using what they had learned with their students and were excited to create new technology-enhanced lesson plans for their courses. It can be concluded that digital technologies and tools are crucial for implementing novel and efficient teaching and learning strategies, but they cannot be isolated from pedagogical approaches. Online courses for teachers should always highlight the strong interrelation between digital technologies and pedagogical approaches by providing practical examples, case studies, and hands-on activities.

References

Capogna, S., Cianfriglia, L., Cocozza, A. (2020), *Digital Culture for Educational Organizations. Guidelines for Teachers and Education Agencies*, (edited by) Eurilink University Press, Roma.

Chen, R. J. (2010), «Investigating models for preservice teachers' use of technology to support student-centred learning», in *Computers & Education*, 55(1): 32-42.

Cruz, F. J. F., and Díaz, M. J. F. (2016), «Generation z's teachers and their digital skills», in *Comunicar. Media Education Research Journal*, 24(1): pp. 97-105. DOI http://dx.doi.org/10.3916/C46-2016-10.

Iatrellis, O., Panagiotakopoulos, T., Gerogiannis, V. C., Fitsilis, P., and Kameas, A. (2021), «Cloud computing and semantic web technologies for ubiquitous management of smart cities-related competences», in *Education and Information Technologies*, 26(2): 2143-2164.

Keiler, L. S. (2018), «Teachers' roles and identities in student-centered classrooms», in *international journal of STEM education*, 5: 1-20.

Lazarinis, F., Karatrantou, A., Panagiotakopoulos, C., Daloukas, V., and Panagiotakopoulos, T. (2022), «Strengthening the coding skills of teachers in a low dropout Python MOOC», in *Advances in Mobile Learning Educational Research*, 2(1): 187-200.

Liapis, A., Maratou, V., Panagiotakopoulos, T., Katsanos, C., and Kameas, A. (2022), «UX evaluation of open MOOC platforms: a comparative study between Moodle and Open edX combining user interaction metrics and wearable biosensors», in *Interactive Learning Environments*, 1-15.

Mirķe, E., Cakula, S., and Tzivian, L. (2019), «Measuring teachers-as-learners' digital skills and readiness to study online for successful e-learning experience», in *Journal of Teacher Education for Sustainability*, 21(2): 5-16.

Panagiotakopoulos, T., Kotsiantis, S., Borotis, S., Lazarinis, F., and Kameas, A. (2021a), «Applying Machine Learning to Predict Whether Learners Will Start a MOOC After Initial Registration», in *IFIP International Conference on Artificial Intelligence Applications and Innovations* (pp. 466-475). Springer, Cham.

Panagiotakopoulos, T., Kotsiantis, S., Kostopoulos, G., Iatrellis, O., and Kameas, A. (2021b), «Early dropout prediction in MOOCs through supervised learning and hyperparameter optimization», in *Electronics*, 10(14): 1701.