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PROMOTING DIGITAL AND MEDIA COMPETENCES OF PRE- AND IN-SERVICE TEACHERS. RESEARCH FINDINGS OF A PROJECT FROM SIX EUROPEAN COUNTRIES

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This paper presents the results of e-MEL, a European project aiming at promoting the development, implementation and testing of training scenarios for pre- and in-service teachers' training in the field of digital and media literacy education. The analysis of the results led the research team to identify the critical and successful aspects of the testing, and to draw some recommendations for the future implementation of teacher training interventions. The final goal is to reflect on sustainable models of media and digital skills training both in terms of teacher education and teachers' professional development.

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1 Introduction

Over the last 10 years, there has been an increasing interest from international bodies in elaborating comprehensive frameworks of digital and media literacy for teachers. One of the most relevant models for media and digital literacy is the Media and Information Literacy (MIL) Curriculum and Competency framework developed by UNESCO in 2011 with the aim of providing teacher education systems with "a framework to construct a program for turning out teachers who are media and information literate" (UNESCO, 2011, p. 19). The framework includes three key interrelated thematic areas that are: 1. Knowledge and understanding of media and information for democratic discourses and social participation; 2. Evaluation of media texts and information sources. 3. Production and use of media and information. These areas are, in turn, connected to six key dimension related to general education and teacher development, policies to promote MIL in education, curriculum design and assessment, pedagogical approach to teaching MIL, capacity to use media and information to reach different audiences, organisation and administration, and finally teachers' professional development.

Another important model was elaborated by the European Union with a narrower focus on digital literacy/competence: the Digital Competence Framework for Educators (DigCompEdu) (Redecker & Punie, 2017; see also Ferrari, 2012), which focuses on using digital tools for data management, collaboration and sharing of innovative teaching practices; selecting or creating digital resources; designing digital learning; developing new assessment strategies through ICT; empowering special needs students with technologies; and promoting learners' digital competence.

While the models for defining digital and media literacy multiply, there is a total mismatch between the digital challenges that teachers have to face in their profession and their preparation both at academic level (Fernández-Cruz & Fernández-Díaz, 2016; Gudmundsdottir *et al.*, 2014; Lund *et al.*, 2014) and for professional development (Cortina-Perez *et al.*, 2014; Gonzalez Fernandez *et al.*, 2015; Spires & Bartlett, 2012; Soldatova & Shlyapnikov, 2015).

In this context, this paper presents and discusses the results of the project e-Media Education Lab (e-MEL, http://e-mediaeducationlab.eu, 2014-17), a European initiative funded by the Erasmus Plus programme and involving six countries (Belgium, Finland, France, England, Italy and Portugal) in the design and testing of educational resources for pre- and in-service teacher training in the area of media literacy education[1]. The e-MEL project was

[1] Data providing the ground for the elaboration here presented are fully documented in the following national reports: Bevort E., Schweitzer E. (2016a), News media education as a citizenship challenge. Report on the e-Lab experimentation, Paris, Canopé-CLEMI; Bevort E., Schweitzer E. (2016b), Images of sciences in the media. Report on the e-Lab experimentation,

aimed at bridging the numerous gaps which still exist in the field of digital and media literacy education in terms of teacher training. Focusing on media literacy and competences, the e-MEL research team developed a framework for media literacy based on three main axes (Verniers & Tilleul, 2014): 1. Informational Axis, which includes critical understanding of contents, analysis of language and representation, analysis of media formats; 2. Technical Axis, which refers to the capacity to understand the techniques which are behind the media and technologies, the technical knowledge of how media work, and the understanding of interfaces; 3. Social Axis, which entails the capacity to understand media production and reception context, and the role of media in society. Each competence was referred to either media analysis or media production. In addition, specific competences of media literacy education were explicated including the capacity to integrate media literacy into the national curriculum, to innovate pedagogical practices, to design, manage and evaluate media education projects in the classroom. This framework provided the basis to develop different training scenarios and test them with pre- and in-service teachers in different countries.

In the following we first present the context of the research project, the methods and results. Then we draw some recommendations for future developments in the field.

2 Research

2.1 Context and Aims

The e-MEL project (2014-17) was funded by the European Commission within the framework of the Erasmus Plus Programme, KA 2 – Cooperation in innovation and exchange of good practices. It aimed at bridging the gap between the emerging need for teachers' preparation on digital and media literacy and the messy reality of training in this field by designing, delivering and experimenting training resources for the professional development of teachers to be published online as open educational resources (OER). The project relied on the wide experience of the consortium in the field of media literacy

Paris, Canopé-CLEMI; Culot M., Orban de Xivry A.C. (2016), National Report Belgium. Report on the e-Lab experimentation, Brussels, Media Animation; Pereira S., Pinto M., Moura P. (2016a), Understanding the Current World. Report on the e-Lab Experimentation, Minho, University of Minho; Pereira S., Pinto M., Moura P. (2016b), Media uses and audiences in the digital environment. Report on the e-Lab Experimentation, Minho, University of Minho; Ranieri M., Bruni I. (2016a), Digital Storytelling as self-representation and social/civic agency. Report on the e-Lab experimentation, Firenze, Università di Firenze; Ranieri M., Bruni, I. (2016b), Make maps talking about arts. Report on the e-Lab experimentation, Firenze, Università di Firenze; Campion B., Verniers P. (2016), Mediated images. Report on the e-Lab experimentation, Brussels, IHECS; Kupiainen R. (2016), Media Cultures. Report on the e-Lab experimentation, Tampere, University of Tampere – EDU; Kotilainen S. (2016), Transcultural perspectives in Media Education. Report on the e-Lab experimentation, Tampere, University of Tampere.

education. The partnership was made up of six organisations highly engaged in Europe on these topics: Brussels School of Journalism & Communication (IHECS), Belgium; Media Animation (MA), Belgium; University of Tampere (UTA), Finland; University of Florence (UNIFI), Italy; University of Minho (UM), Portugal; Centre pour l'éducation aux médias et l'information (CLEMI), France; University College London - Institute of Education (UCL-IOE), England.

The project was based on three main phases, namely:

- Phase 1. Elaboration of a theoretical framework to represent media literacy education skills and competences for (pre- and in-service) teacher training and development of related evaluation tools.
- Phase 2. Design, implementation and experimentation of 10 training scenarios (TS) delivered in a blended modality through an online platform called eLAB, addressing (pre- and in-service) teachers (Table 1).
- Phase 3. Revision, improvement and dissemination of TS and educational resources through the eLAB released as an open educational resource (OER) on a wider scale for initial and continuing teacher training institutions.

Table 1
TRAINING SCENARIOS

Country and partner	Title	Focus
Belgium - IHECS	MEDIATISED IMAGES IN CONTEXT (IHECS/TS1)	Analysis of images
Belgium – Media Animation	UNDERSTAND AND DECRYPT TV NEWS SHOW (IHECS/TS1)	Analysis of News show
Finland – UTA EDU	MEDIA CULTURES (IHECS/TS1)	Advertisements and pedagogy of multiliteracies
Finland – UTA CMT	MEDIA USES AND AUDIENCES IN THE DIGITAL ENVIRONMENT (IHECS/TS1)	Transcultural perspectives in media uses and education
Italy – UNIFI	DIGITAL STORYTELLING AS SELF-REPRESENTATION AND 'SOCIAL/CIVIC' AGENCY (IHECS/TS1)	Digital storytelling in educational contexts
Italy – UNIFI	MAKING MAPS TALKING ABOUT ART (IHECS/TS1)	Production of geo-related multimedia contents
France – CLEMI	EMI - NEWS MEDIA EDUCATION AS A CITIZENSHIP CHALLENGE (IHECS/TS1)	Analysis of News Media
France – CLEMI	ISM - IMAGES OF SCIENCES IN THE MEDIA (IHECS/TS1)	Awareness on the power of images for teaching sciences
Portugal – UNIMINHO	UNDERSTANDING THE CURRENT WORLD (UM/TS1)	Critical thinking and school media implementation
Portugal – UNIMINHO	MEDIA USES AND AUDIENCES IN THE DIGITAL ENVIRONMENT (UM/TS1)	Understanding media uses, particularly among younger publics

2.2 Participants

279 pre-service teachers, mostly aged between 20 and 24 years, attended the five training scenarios and most of them were female (N=259) (Table 2). As for the level of education, there were differences between students with only a high school diploma and students with a master's degree. Concerning previous online experiences, the answers depend on the national context: only in Finland are previous e-learning experiences common. As for the perceived level of media literacy skills, most trainees believe they have a good level of competence: only in Italy and Belgium did 1/3 of students declare they have a low level of media literacy.

Table 2
NUMBER OF PRE-SERVICE TEACHERS AND THEIR CHARACTERISTICS

TS	Number	Age	Gender	Education	Previous online experience	ML competences
IHECS	16	14 → 20-24 1 → 25-29 1 → 40	13→ F 3→ M	15→ Bachelor 1→ Master	3 → Yes 13 → No	5 → Low 9 → Good 2 → Very Good
UTA EDU	78*	6 → < 20 36 → 20-24 12 → 25-29 8 → 30-34 4 → 35-39 2 → 40-44	66 → F 12 → M	56 → High school dip. 17→ Bachelor 5 → Master	60 → Yes 17 → No	2 → Low 72 → Good 4 → Very Good
UTA CMT	17**	2 → 20-24 6 → 25-29 3 → 30-34 4 → 35-39 2 → 40-44	13 → F 4 → M	11 → Bachelor 6 → Master	7 → Yes 10 → No	11 → Good 6 → Very Good
UNIFI TS 1	95***	90 → 20-24 4 → 25 - 29 1 → 34	95 → F	91 → High school dip. 2 → Bachelor 2 → Master	31 → Yes 64 → No	1 → Very Low 33 → Low 59 → Good 2 → Very Good
UNIFI TS 2	73****	67 → 20-24 2 → 25-29 3 → 30-34 1 → 40-44	71 → F 2 → M	65 → High school dip. degree 2 → Bachelor 6 → Master	36 → Yes 37 → No	2 → Very Low 31 → Low 38 → Good 2 → Very Good
TOTAL	279					

* 85 students joined the training scenario, but only 78 filled in the pre-survey

**18 students joined the training scenario, but only 17 filled in the pre-survey

*** 110 students joined the training scenario, but only 95 filled in the pre-survey

**** 87 students joined the training scenario, but only 73 filled in the pre-survey

Table 3
NUMBER OF IN-SERVICE TEACHERS AND THEIR CHARACTERISTICS

TS	Number	Age	Gender	Education	Previous online experience	ML competences
MA	7 secondary	1 → < 30 1 → 30-35 2 → 36-39 2 → 40-49 1 → 50-59	5 → F 2 → M	6 → Master 1 → High school	2 → Yes 5 → No	3 → Good 4 → Very Good
CLEMI TS1	5 primary	1 → 30-35 2 → 40-49 1 → 50-59	2 → F 3 → M	4 → Master 1 → High school	2 → Yes 3 → No	4 → Good 1 → Very Good
CLEMI TS2	7 secondary	2 → 30-35 1 → 36-39 2 → 40-49 2 → 50-59	5 → F 2 → M	7 → Master	4 → Yes 3 → No	3 → Good 3 → Very Good
UM TS1	27 mix order of school	4 → 36-39 15 → 40-49 8 → 50-59	22 → F 5 → M	12 → Bachelor 15 → Master	26 → Yes 1 → No	13 → Good 14 → Very Good
UM TS2	35 mix order of school	1 → 36-39 18 → 40-49 15 → 50-59 1 → 60 <	29 → F 6 → M	9 → Bachelor 24 → Master 2 → Doctoral	34 → Yes 1 → No	6 → Low 27 → Good 2 → Very Good
TOTAL	81					

2.3 Research Questions

With the aim of investigating the issue of teacher training on media and digital literacy education, this study addressed the following research questions:

- What are the main successful and/or challenging aspects of training pre-service teachers about media and digital literacy?
- What are the main successful and/or challenging aspects of training in-service teachers about media and digital literacy?

2.4 Method

With the purpose of gathering data to answer the research questions, a mixed strategy based on both quantitative and qualitative data was adopted. In each national context, a pre-survey was administered at the beginning to obtain data on demographics, previous experiences and expectations. At the end, participants filled in a post-survey on satisfaction, providing suggestions for future implementations. Trainers took notes on the process in a logbook including observations and reflections on significant learning situations,

difficulties and possible improvements. Each partner analysed and triangulated data to increase trustworthiness and credibility (Lincoln & Guba, 1985) and produced national reports which were to identify strengths and weaknesses of the training experiences. For the need of comparing and synthesising the data from the different countries, a grid of analysis was used to glean the main emerging aspects of each context. However, since there were differences between the diverse testing contexts, even in terms of sample size, several skype call meetings with trainers were necessary to reach a better understanding of findings. In addition, member checking (Cohen *et al.*, 2011) was carried out during the transnational meeting in Brussels (December 2016) to increase the reliability of data analysis and a final report was drawn up.

This recursive procedure of analysis, synthesis and reviewing led to the identification of the strengths and weaknesses of the implementation of training scenarios, according to four main dimensions: Didactics, referring to TS effectiveness, quality of methods and activities, transferability of resources; Modality, meaning the balance between online and offline activities and sustainability; Technology concerning the usability of the platform; and finally Participation, related to teachers' involvement in activities and satisfaction.

3 Results and discussion

3.1 Pre-service teachers: Strengths and weaknesses

In general, all TS included both media analysis and production, and almost all participants found them to be the most interesting activities (Table 4). With the exception of Belgium, where trainees expressed their preference for online lectures, exploration and search for resources, in the other cases the activities of deconstructing media representations and creating media were perceived as significant. As regards future developments, most students declared they would not modify the activities since they "are already well structured, organised and useful", while some students suggested increasing the focus on media production (Ranieri & Bruni, 2016a, p. 11). In some cases, for example UTA-EDU, trainees also suggested an improvement of the activity with flipped learning to increase the level of interaction and discussion among participants (Kupiainen, 2016, p. 11).

Table 4
MOST INTERESTING ACTIVITIES

	IHECS/TS1	UTA/TS1	UTA/TS2	UNIFI/TS1	UNIFI/TS2
Face to face meetings	7/13	13/78	7/17	26/95	20/73
Webinars	13/13	0/78	0/17	21/95	16/73

	IHECS/TS1	UTA/TS1	UTA/TS2	UNIFI/TS1	UNIFI/TS2
Exploration of resources	11/13	9/78	1/17	21/95	9/73
Search and editing of resources	11/13	10/78	1/17	25/95	21/73
Media analysis activities	1/13	48/78	6/17	31/95	17/73
Media production activities	5/13	48/78	9/17	34/95	34/73
Group work	10/13	50/78	6/17	41/95	30/73
Web Discussion	13/13	0/78	2/17	6/95	6/73
Collaborative work through wiki	12/13	1/78	1/17	7/95	6/73
Other	0/13	0/78	2/17	1/95	0/73

In all countries there emerged a strong expectation by trainees towards the development of pedagogical competences in the field of media education. This expectation has been partially disregarded in so far as the TS did not include specific pedagogical content on teaching media competences. One of the trainers from Finland commented: "The emphasis should be explicitly more on pedagogy of media education, now the pedagogy tried to integrate with assignments in a way that was not transparent to trainees" (Kupiainen, 2016, p. 7). This was largely discussed during the member check session in Brussels: the initial idea was that by teaching media literacy, trainers would also teach media education as in a modelling process. But trainees asked for a more explicit approach to the teaching dimensions of media education.

Another issue refers to the feedback on participants' performances over the course. Providing individual and immediate feedback was really demanding, especially in those situations where the number of trainees was high as in Italy. Here the trainers observed: "In order to provide a continuous and sustainable guidance, even with large-size classes, the system of feedback delivery should be reshaped moving towards self-evaluation, providing worked examples and tests to check acquired knowledge unit by unit " (cambia come segue: Ranieri & Bruni, 2016a, p. 11 and cambia come segue: Ranieri & Bruni, 2016b, p. 11). This issue was also discussed during the member check session in Brussels and different forms of peer feedback were mentioned as a means to reduce the gap between the single experience and the collective feedback, especially in pre-service teacher training.

The blended modality was new for many trainees, who showed different attitudes towards it. Face-to-face meetings were found significant by all participants, especially at the beginning and at the end to support technological

familiarisation and to provide final feedback (see e.g. cambia come segue: Ranieri & Bruni, 2016b, p. 11). The online activities and the use of the eLAB platform were not always perceived as relevant: in the Belgian context, the trainer talked about a kind of "eLAB avoidance strategies" by trainees (Campion & Verniers, 2016, p. 11) and trainees from UTA CMT did similarly. A totally different experience characterises what happened in Finland UTA EDU, where the trainer integrated other media tools in a Moodle platform, creating a kind of "e-MEL Hub Lab" (Kupiainen, 2016, p. 7). This approach was appreciated by the students and during the member check session trainers agreed that this could be a useful strategy to overcome the narrow boundaries of traditional platforms such as Moodle.

In terms of sustainability, the problem of time management emerged both in Belgium and Italy with some trainees asking for more time to complete some tasks or to work longer to finish media production. As observed in IHECS, "time management is also a dimension for the trainer who had to conciliate the coherence of the learning process, the experimentation itself and the constraints related to the academic programme where the experiment took place, which did not allow exceeding the planned experimentation period" (Campion & Verniers, 2016, p. 11). This introduces another common issue concerning the adaptation of the training scenario to the university context: media education in higher education is a new topic which requires changes to the academic curriculum in order to make these educational activities at the university sustainable (see also Ranieri & Bruni, 2018).

3.2 In-service teachers: strengths and weaknesses

Even in the case of in-service teachers, media analysis was particularly appreciated, especially in Belgium and France, where trainers placed particular emphasis on developing a critical eye on the media. As the Media Animation trainer stated, "the training scenario was designed to bring a lot of case studies and methodologies to support media critical analysis." (Culot & Orban de Xivry, 2016, p. 5).

Another common aspect across the different contexts was the attention given to the transferability of knowledge and competences. Activities and resources were selected or designed to facilitate trainees to re-use them in their professional contexts. As a positive result of the experimentation, we can mention the fact that some teachers used the materials at school even during the experimentation or came back to the platform after the TS completion to download the resources (Culot & Orban de Xivry, 2016, p. 8, Bevort & Schweitzer, 2016b, p. 12). Table 6 indicates this trend: most trainees agreed or strongly agreed that the e-MEL resources or competences developed through

the programme were transferable to their professional contexts.

Table 5
LEVEL OF AGREEMENT ON THE TRANSFERABILITY OF THE COMPETENCES AND RESOURCES DEVELOPED DURING THE COURSE

	The competences developed in the course will be useful for my professional life					I expect to use this training scenario or parts of it in my professional context				
	UM1/ TS1	UM2/ TS2	MA/ TS1	CL1/ TS1	CL2/ TS2	UM1/ TS1	UM2/ TS2	MA	CL1/ TS1	CL2/ TS2
Strongly Disagree	0	0	-	-	-	0	0	-	-	-
Disagree	0	1	-	-	-	0	1	-	-	-
Uncertain	0	1	-	-	-	1	3	1	-	-
Agree	5	6	2	4	1	4	7	1	4	1
Strongly Agree	19	20	3	1	1	19	17	3	1	1
TOTAL	24	28	5	5	2	24	28	5	5	2

As for course delivery, all training scenarios were based on a mix of face-to-face and online activities, which aroused different reactions and reflections relating to their weaknesses and strengths. On the one hand, trainers in courses delivered at a national level, like Portugal or France, observed that the blended-modality was a good choice in terms of teachers' involvement because it supported "the inclusion of teachers from a vast geographical range" (Pereira, Pinto & Moura, 2016a, p. 11); moreover, this modality provided trainees with "the advantage of working at their own pace" (Culot & Orban de Xivry, 2016, , p. 6). On the other hand, face-to-face sessions are reported by all trainers as essential moments of interaction, which deeply contributed to the success of the learning process. This aspect was analysed and discussed during the national meeting, where trainers agreed on the opportunity to plan at least two face-to-face meetings, one at the beginning and one at the end of the course.

Even in the case of in-service teachers there emerged the need to have continuous feedback during the online training process: as commented by several trainers in the member checking session, trainees seem to expect an "always-on trainer", even at night. The discussion around this issue led the research team to identify two complementary strategies to ensure constant feedback in the in-service teacher context. On the one hand, the trainer should be conceived as a community manager fostering trainees' active participation and cooperation; on the other hand, the challenge of feedback may be tackled through a professional community of practice, where one can rely on peer support.

As far as the blended modality is concerned, the greatest challenge was about

workload; from all national reports, it clearly emerges that the effort required to carry out the online activities was almost always underestimated by trainers. During the discussion, trainers tried to explain this gap; probably trainees' competences were overvalued and this might explain why teachers tended to resist the use of this new online learning environment. This consideration is also consistent with the tendency by trainees to use more common tools and platforms to communicate and collaborate.

Another common problem was the timing of activities and deliveries, which was too short. Participants were already busy with their professional duties and dedicated their scant free time to the training, usually at night. A more relaxed pace is suggested: "the sessions shouldn't be weekly, but fortnightly. This change, we believe, would grant more time to explore the contents and resources available, it would foster a better assimilation of what is proposed and it would improve the performance of the trainees in the different activities" (Pereira, Pinto & Moura, 2016a, p. 10).

Regarding the eLAB platform, trainees found it unfriendly to navigate the platform because of the linear path of navigation which makes it "difficult to go back to previous activities and to move through menus" (Bevort & Schweitzer, 2016a, post 22). Technical difficulties were reported by trainers as a possible explanation for teachers' drop-out during the course. The French case is very revealing from this point of view: during the presentation of the training scenario, trainees thought that all activities were very easy for them, but the course proved to be rather challenging and the trainer recorded "from the very beginning, difficulties linked with the online work conceptually and technically". Only two teachers finished the course, and they agreed on the lack of technical skills of their colleagues: "for most of the trainees they were not able and maybe afraid to use the platform, to upload their documents and even to do the group work" (Bevort & Schweitzer, 2016b, post 12).

Looking at the level of participation, the national reports stress another relevant issue: the lack of institutional support did not allow in-service teachers to dedicate time and energy to the training. Even when the training was institutionally recognised as an activity of professional development and formative credits were attributed to the teachers, as in Portugal and Belgium, the lack of support was still a problem: as one trainer observed "the organisation of the in-service training sessions requires a real commitment of all the stakeholders (institution, trainees…) while taking account of the constraints (workload, time). This training cannot remain a matter for the «most engaged» ones" (evort & Schweitzer, 2016b, p. 14; see also Ranieri, Bruni & Orban de Xivry, 2017).

4 Recommendations and conclusions

Based on the results presented above, we will now try to draw some conclusions, while recognising the limitations of the study, that is a limited sample and the variety of the contexts. Indeed, we do not claim to generalise our final considerations. We just think that the results of the study along with the high expertise of the organisations involved in the project and the deep discussion which trainers had during the transnational member check sessions, provide the basis to suggest at least some recommendations for future implementation of media literacy training for pre-service and in-service teachers.

Following the analysis of the results, recommendations have been organised into four categories, namely Didactics, Blended Modality, Technology and Participation. In this tentative synthesis we also took into consideration the specificities of the different target groups, i.e. pre-service and in-service teachers.

4.1 Didactics

Media analysis and production activities are important. Group work is relevant [pre-service & in-service teachers]

Media analysis and production activities proved to be consistent with trainees' expectations and relevant in terms of perceived level of learning and satisfaction. Courses addressed to in-service teachers were designed to support critical media analysis, while pre-service training scenarios also involved production activities, often conducted adopting group work. This methodology was perceived as an exception to traditional university teaching and was much appreciated because students could experience it for themselves.

Add a transversal module focused on Media Education competences [pre-service teachers]

Analysing pre-service teacher training, there emerged a strong expectation towards the development of pedagogical competences. However, trainers agreed that the didactic dimension of media education should be addressed in a more explicit way, especially in the context of teacher education. A possible solution would be that of adding a module focused on pedagogical aspects; exercises and activities on how to design a lesson plan could be proposed to trainees in order to develop media education competences.

Transferability of activities and resources [in-service teachers]

Teachers expect to transfer what they have learnt to their professional contexts: that is why we recommend having this need in mind when designing activities, in order to facilitate the delivery of materials to trainees and their

adaptation to the school context.

4.2 Blended Modality

Importance of face-to-face meetings [pre-service & in-service teachers]

Trainees consider face-to-face lessons significant in terms of learning, especially for deepening the topics and giving/receiving effective and timely feedback. On the other hand, trainers reported face-to-face sessions as essential moments of interaction, but they also stated that the blended modality was fundamental to allow in-service teachers' involvement. We suggest planning at least two face-to-face meetings, one at the beginning and one at the end of the course, which are essential to present the training scenario and to give a qualitative feedback at the end of the course.

Flipped approach [pre-service & in-service teachers]

Another possible improvement related to the mode of delivery was suggested by trainees, who proposed adopting a flipped-approach for the group work; groups can organise themselves to meet and work, and then reflect on their experiences with trainers during face-to-face meetings. Trainees believed that flipped learning could be useful to increase the level of interaction and discussion among participants.

Workload of online activities [pre-service & in-service teachers]

Trainees perceived the online workload to be too heavy, while trainers generally underestimated the real effort necessary to carry out the work. In consideration of that, it is advisable to add more time to work on the deliveries and to give a slower pace for online activities, as a minimum with fortnightly sessions.

Technology: eLAB platform as a hub of online resources [pre-service & in-service teachers]

During the experimentation, it emerged constantly that participation and interaction through the eLAB platform was quite problematic, because trainees have a kind of resistance; when they did not understand the need to use the provided platform, they adopted a kind of "eLAB avoidance strategy" and preferred other tools, like common online. It is preferable to avoid "forcing" them; that is why we suggest future trainers to integrate other media tools in the Moodle platform.

4.3 Participation

Build institutional support [in-service teachers]

As for in-service teachers, the main issue was the lack of institutional support which did not allow trainees to dedicate enough time and energy to the training.

In some contexts, the training was formally recognised as a professional updating, but still this was not enough to ensure participation. What teachers really need is the commitment of their local and national institutions (from the school to the National Ministry of Education) to concretely support their training, such as giving free time to be dedicated to professional development.

Adaptation of the TS to university context [pre-service teachers]

As for pre-service teachers, there emerged a need for adaptation of training to the university context, which imposes constraints in terms of time and workload management, especially for media production activities. Media education in higher education is a new topic which requires changes to the academic curriculum in order to make it sustainable.

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