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European Distance and E-Learning Network (EDEN)

Lessons from a Pandemic for the Future of the Education

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Edited by

Sandra Kucina Softic, András Szucs

on behalf of the European Distance and E-Learning Network

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The European Distance and E-Learning Network is co-operating with EDEN Digital Learning Europe MTÜ (Estonia), in order to sustain the legacy of the EDEN Association brand after the United Kingdom having left the EU, to ensure continuity of services and activities for the benefit of the European academic and professional community in open, distance and online learning.



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Introduction

For the EDEN association and its members, the EDEN Annual Conference is the biggest and most The gradual transition from traditional classroom-based education to online teaching and learning has been accelerated by the global crisis caused by the COVID-19 pandemic. Since it started, our way of life, work, and education have been irrevocably changed. When we look back upon this extraordinary period in our history, we see that this crisis has forced educators to reappraise their roles, professional practices, and beliefs. As a consequence, teachers and students have been forced online, highlighting a range of skills and knowledge that were sorely in demand. There has been an inevitable need for educational institutions to make key strategic decisions on how to provide both access to relevant tools, support in their use, and training for both educators and learners, so that teaching staff can engage online with their students in a meaningful way.

EDEN has a long history of supporting educators in online and distance education, providing a forum for discussion, learning, and refinement of best practices in this area. This pandemic has been no exception. Since the first national lockdowns started in European countries back in early 2020, a series of initiatives have been launched to support EDEN members during this crisis. The interest shown by members for these initiatives has been very high, with large numbers of participants and a clear desire to share and reach consensus.

This year's conference is, therefore, intended as a continuation of the efforts of EDEN to support educators by providing a space to explore the issues and insights that have emerged during the COVID-19 pandemic. It is intended to enable educators to share their experiences and best practices related to a range of topics relevant to this situation. These topics furthermore include issues such as:

- learner-centeredness in education;
- the continued evolution of online and distance learning;
- transitioning from emergency remote teaching to online learning;
- digital preparedness, digital literacy, and digital citizenship;
- the continued adoption of Artificial Intelligence;
- methodological advances;
- potentiating health and wellness in online education;
- and non-traditional assessment solutions.

Not only does this conference provide attendees with the perfect opportunity to explore this range of topics, but it also provides us with a space to reflect upon the role that online and distance education will have after the pandemic. As noted in our webinar series #covid19 #onlinetogether Education in a time of a pandemic, fully online education on a global scale is unprecedented in the history of education. Today we are talking about the

“new normal” and “future normal”. What will this future look like? How can EDEN members help to shape it and bring their insights to bear?

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DIGITAL COMPETENCE FOR CITIZENS: UPDATING AND VALIDATION OF THE ACTIC FRAMEWORK TO THE NEW DIGITAL CONTEXT

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Abstract

The Catalan Accreditation of Competences in Information and Communication Technologies, ACTIC (2009) takes the guidelines of the European Union and the OECD on learning by competencies and was the prelude to the future definition of DigComp. The aim of the article is to present the new version of the ACTIC (2020) developed by researchers from the Universitat Oberta de Catalunya and the Fundació Blanquerna of the Universitat Ramon Llull, at the initiative of the Department of Digital Policies and Policies and Public Administration of the Generalitat de Catalunya.

The research process has been carried out by a group of experts who have validated the new framework. Through a mixed method structured in 3 phases, the results of the study present the updated version of the ACTIC aligned with Digcomp that is specified in the definition of 5 competence areas, 19 competencies, 3 levels of achievement and a total of 233 indicators.

These results allow us to conclude that three key dimensions have emerged that facilitate awareness and empowerment of citizens on digital issues and that will allow their accreditation and recognition in the work environment: (a) the identity dimension, focused on participatory issues, social, ethical and civic; (b) the dimension of citizen competence learning and, (c) the dimension of technological evolution and digital autonomy of citizens.

Introduction

The Digital Revolution has left us immersed in the Information Era at a speed and a globality that breaks the sequence of paradigm shifts described by Khun (1962). On this occasion, the Third Industrial Revolution shakes the period of transition between paradigms. Information and communication technologies are extended everywhere at all levels of social relationship, and the science involved in their understanding seeks to

anchor the new paradigm. It is in the liquid and hyper-connected society described by Bauman (2003) and Castells (2006) respectively, where we now have to learn to live. And that implies exercising a citizenship with the competences to understand and manage the implications of our access to technology.

The definition of digital competence for citizens includes skills such as the incorporation of technologies in different personal spheres, incorporating attitudes such as the critical and responsible use of digital technologies, or promoting privacy and respect for the community:

“Digital Competence is the set of knowledge, skills, attitudes, abilities, strategies, and awareness that are required when using ICT and digital media to perform tasks; solve problems; communicate; manage information; collaborate; create and share content; and build knowledge effectively, efficiently, appropriately, critically, creatively, autonomously, flexibly, ethically, reflectively for work, leisure, participation, learning, and socialising” (Ferrari, 2012; p.30).

Before this definition, the Catalan Accreditation of Competences in Information and Communication Technologies (ACTIC) was born in 2009, which is based on the guidelines of the European Union and the OECD on learning by competences and is a prelude to the future definition of DigComp (Ferrari et al., 2013), the common European framework on Digital Competence. This framework referred to as DigComp was updated in 2016 with the DigComp 2.0 version (Vuoraki et al., 2016).

The project to update and validate the ACTIC framework is supported by DigComp and is an initiative of the Department of Digital Policies and Policies and Public Administration of the Generalitat de Catalunya developed jointly by the Universitat Oberta de Catalunya (UOC) and the Fundació Blanquerna of the Ramon Llull University.

Since its origins, the contents and indicators of the ACTIC have been periodically reviewed and updated to improve the clarity and updating of its contents. Its objectives have always been: (a) to promote the digital training of citizens to achieve an inclusive, dynamic and competitive knowledge society; (b) contribute to the promotion of competences training in the use of ICT; and (c) officially certify digital competence to facilitate job access, professional promotion, access to virtual learning platforms, among others in the Catalan context.

The high speed of ICT development and its global implementation requires its profound updating and transformation. It is from this perspective that the update of the ACTIC

begins to better meet the needs of digital citizenship in today's society. Based on the literature review, the following key elements are defined on which to base the update of the ACTIC:

1. Transversal vocation.
2. Digcomp alignment.
3. More competence and less instrumental evaluation.
4. Reinforcement of attitudinal, ethical, well-being and safety issues.
5. Enhancement of citizen participation in the transformation of the digital society.
6. Incorporation of digital autonomy.
7. Inclusion of data analysis, exploitation and visualization with digital tools.

Based on these elements, the research focuses on the following questions: what competence areas, competences, indicators and levels of achievement do the citizens of Catalonia require to be digitally competent? And more specifically: what are those digital competences that favour citizen participation?

In this way, the main objective of the project has been to develop a new accreditation framework for digital competence in Catalonia based on the key elements indicated. In this research, the process of generation and validation of the new ACTIC version is presented through the participation of a group of experts, who have configured the new framework in 5 competence areas that group 19 competences, for whose evaluation 233 indicators have been defined.

Methodology

To carry out the process of validation and updating of the new version, ACTIC is committed to a mixed method (Creswell et al., 2010) that is structured in 3 phases: (a) Definition of competence areas, competences and achievement indicators that It includes a previous documentary research work that bases the definition of the new framework for the development of competence areas, competences and indicators and levels of achievement; (b) Validation by judges of the competence areas, competences and indicators and levels (c) Updated version of the ACTIC. Each of them are described below:

Phase 1 – Definition of competence areas, competences, indicators and levels of achievement

The criteria adopted to analyse the selected frameworks have been: (a) identify the main competences developed as a whole, (b) assess the coherence of vision and competences developed within each framework, (c) establish the substantial differences and key

similarities between the selected frames and (d) identification of missing elements, if applicable. Once the competence areas and competencies have been established, the group of Researchers formulates a set of indicators. Following the definition of Roegiers (2005) an indicator is a concrete indication, a precise index, both qualitative and quantitative that specifies and makes operational an evaluation criterion. In the case of ACTIC, between three and six qualitative and complementary indicators are formulated by level of acquisition for each of the 19 competences.

Phase 2 – Validation of the competence areas, competences, indicators and levels of achievement

Once the proposal of competence areas, competences and indicators has been generated, the validation process is carried out at two levels, as shown in Table 1. On the one hand, the transversal validation focused on the competence areas, competences, keywords and level proposal. On the other hand, a specific validation, where different members of the group of experts in a corresponding area are classified by areas. Validation is carried out through six validation questionnaires (one for each of the five areas and one for the cross-sectional evaluation) that are accompanied by an explanatory video of the proposal and a PDF document that incorporates all of the indicators, ordered by areas of competence and competences.

For cross-sectional validation, the questionnaire asks to evaluate the competence areas, competences and levels based on three factors: (a) from the point of view of the formulation: if the wording of the areas and competences is clear, concrete and with a language adequate, (b) from the point of view of coherence: if the competences are consistent with the corresponding area, and (c) from the point of view of applicability: if the competence is important and applicable to citizens.

For the specific validation, the questionnaires ask to evaluate each set of indicators based on three factors: (a) from the point of view of the formulation: if the wording of the indicators is clear, concrete and with an appropriate language, (b) from the point of view of coherence: if the indicators are coherent within each level of each competence, and (c) from the point of view of evaluability: if the indicators are easily evaluable.

The answers of the experts consulted by professional profile of each one of the areas, as well as the cross-sectional validation, obtaining a 66.7% participation.

Phase 3 – Final validation of the ACTIC

Finally, the ACTIC Advisory Commission as a regulatory body for the accreditation of ICT competencies and which is established based on Decree 89/2009 DOGC, carried out a final

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validation. This committee is made up of 19 members responsible for different areas of the Administration, the business and trade union world, as well as other professionals with an outstanding knowledge of ICT and their participation and involvement in the digital society.

Conclusions

The result of this project is materialized in the definition of digital competence for the citizens of Catalonia based on 5 competence areas, 19 competences, 3 levels and their corresponding indicators that answer the research question.

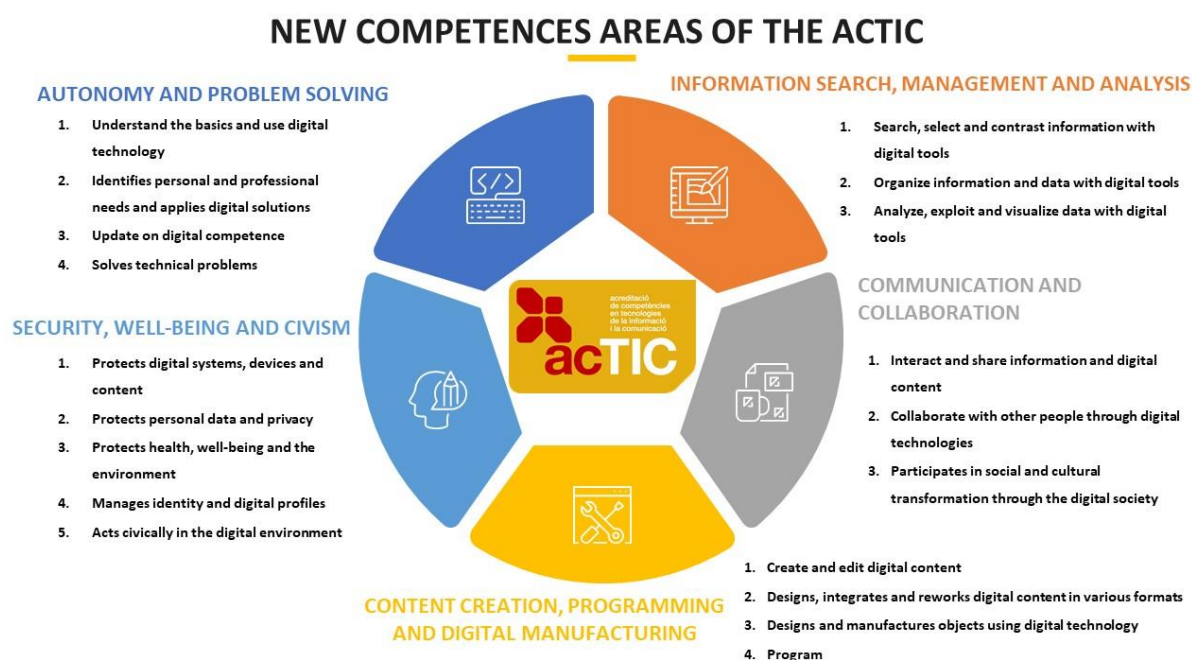


Figure 1. Map of competence areas and competencies of ACTIC

Finally, it is found that this study is key in the current context, accelerated even if possible by the pandemic and the digitization needs of citizens to offer an accreditation framework and to reduce the digital divide.

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Digital Competence for Citizens: Updating and Validation of the ACTIC Framework to the New Digital Context

Refonte de la pédagogie en Algérie – Défis et enjeux d'une société en mutation (pp.107-124). Alger: UNESCO-ONPS.

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IMPACT OF COVID-19 PANDEMIC ON DISTANCE LEARNING PERFORMANCE: AN ANALYSIS OF APPLIED ECONOMICS' STUDENTS

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Abstract

This communication shows the preliminary results of an ongoing investigation on the effects of COVID-19's social derived changes on the academic performance of undergraduate distance learning students in applied economics. Specifically, the study focuses on identifying if the COVID pandemic restrictions has impacted on distance learning students' performance and, if so, is this due to mobility restrictions or to content and methodological adaptations to the COVID context carried out by the teaching teams. Results are obtained from a sample of almost 17,000 observations from 6,000 students coursing nine economic policy subjects taught in the distance education modality by the Department of Applied Economics of UNED, the first and largest Spanish distance learning university.

Introduction

In response to the serious health crisis initiated in 2020 by COVID-19, numerous measures have been taken at the international, national, regional and local levels focused on restricting population movements and promoting non-contact activities in all areas (education, labour, social, etc.). All of this coupled with a greater degree of uncertainty and an increase in domestic burdens for certain segments of the population, especially for those with dependents (children, the elderly, sick people, or those with special care needs).

In this context, many universities have been forced to change in a short time all their face-to-face activity to distance education methodologies and tools. Even distance education universities have been forced to adapt some of their activities to the new social context responding to students' greater demand for interaction. Studies such as those carried out by Aristovnik et al. (2020), Elumalai et al. (2020), Gonzalez et al. (2020), Green et al., 2020 or Kamarianos et al. (2020) show the great challenges that entails both for teachers and students adapting to that new context.

Impact of COVID-19 Pandemic on Distance Learning Performance: An Analysis of Applied Economics' Students

Analyses such as the one carried out by Gonzalez et al. (2020) show that those adaptations led to the improvement of students' academic performance in face-to-face universities after periods of confinement and lockdown caused by the COVID-19' crisis. Among the reasons that explain this improvement are precisely the implementation of distance learning methodologies.

However, to our knowledge there is not enough evidence by now of how COVID-19's restrictions have impacted on students' performance at distance learning universities. This research intends to fill this gap by analysing if there has been any change in the performance of applied economics' students at UNED – the Spanish first and largest distance learning university – during the COVID pandemic; and, if so, whether it is motivated by mobility restrictions or by content and methodological adaptations to the COVID context carried out by the teaching teams.

The following sections briefly show the main motivations that led to this study, the methodology used, and a summary of the main results and conclusions reached in the first phases of the analysis.

Methodology

As the basis for the analysis we considered a group of 16,888 observations from nine economic policy subjects taught in the distance education modality by the UNED's Department of Applied Economics from the 2016/17 academic year to the first term of the course 2020/21 (Table 1). These subjects are offered in different degrees: Economics, Business Administration, Tourism and Political Science. Five subjects are coursed in the first semester, and four more in the second semester. The latter were the most affected by the COVID pandemic during the 2019-20 academic year.

Comparing the results obtained by students enrolled during and after March 2020 (4,997) versus a control group constituted by the students enrolled in previous courses (11,911) allows to identify any change in students' performance due to COVID-19 pandemic. It also allows to identify any changes between the semesters most affected by COVID-19 mobility restrictions existing in Spain during the months of March to September 2020.

As Table 1 shows, the sample includes 4 subjects in which no teaching innovation were made during that period to adapt materials or examinations to COVID context and restriction and 5 subjects in which teaching innovations were implemented: in 3 of them the innovations were only focused in adapting ordinary examinations and in 2 of them both in adapting ordinary examinations and teaching materials in response to the requirements of the pandemic context. The comparison between these subgroups will

Impact of COVID-19 Pandemic on Distance Learning Performance: An Analysis of Applied Economics' Students

allow us to assess the effect of these measures of teaching innovation on the results obtained by the students.

Table 1: Sample. Number of students per year and subject

Sem.	Subject		2016- 2017	2017- 2018	2018- 2019	2019- 2020	2020- 2021	Total
1	Budget and public expenditure theory	TPGP	498	497	450	416	521	2,382
1	Budget and public spending in Spain	PGPE	282	280	257	233	277 (i)	1,329
1	Economic policy: objectives and instruments	PEOI	345	307	312	262	360 (ii)	1,586
1	Spanish and compared economic policy	PEEC	282	306	331	248	288 (ii)	1,455
1	Tourism economic policy	PET	437	372	325	283	330 (ii)	1,747
SUB-TOTAL Semester 1			1,844	1,762	1,675	1,442	1,776	8,499
2	Public economic policies – Economy	PEP(ECO)	406	328	346	293 (iii)	-(ii)(iii)	1,373
2	Public economic policies - Business Administration & Management	PEP(ADE)	965	895	797	816 (iii)	-(ii)(iii)	3,473
2	Spanish tax system	STE	418	497	515	275 (i)	- (i)	1,705
2	Theory of public revenues	TIP	518	519	426	375	-	1,838
SUB-TOTAL Semester 2			2,307	2,239	2,084	1,759	-	8,389
TOTAL			4,151	4,001	3,759	3,201	1,776	16,888

(i) COVID teaching general adaptation to online test in ordinary examinations

(ii) COVID specific teaching adaptation to online test in ordinary examinations

(iii) COVID teaching innovation in materials

The academic performance of the students in each subject has been carried out through the following commonly used indicators:

- Average marks of the students;
- Evaluation rate = total students sat for examination / total students matriculated;
- Pass rate = total students passed / total students examined;
- Achievement rate = total students passed / total students matriculated.

To deep in the reasons beneath any change in students' performance due to COVID-19 pandemic, a second phase of the investigation is being carried out. This new phase is based on surveys to the students of all courses asking for socioeconomic aspects relevant to the analysis and, in the case of the students from the second semester of the 2019-2020 academic year, also on their specific socio-labour situation during the months in which there was restriction of movements derived from COVID-19.

Results and conclusions

As it can be seen in Figures 1 and 2, preliminary results evidence an increase in the total number of students sat for examination and better evaluation rates in all the subjects and terms analysed. Nevertheless, there are differences in students' performance depending on the term the subject was coursed, and on the inclusion (or non-inclusion) of teaching innovation practices.

Students coursed subjects during the months with stricter COVID lockdowns (i.e. in Spain it occurred between March and September 2021) show better performance in terms of the evaluation rate, pass rate and the average marks obtained. This improvement occurs regardless the subject or the innovation practices implemented by the teaching team. Nevertheless, results and rates have increased more in those subjects which did implemented teaching innovation practices.

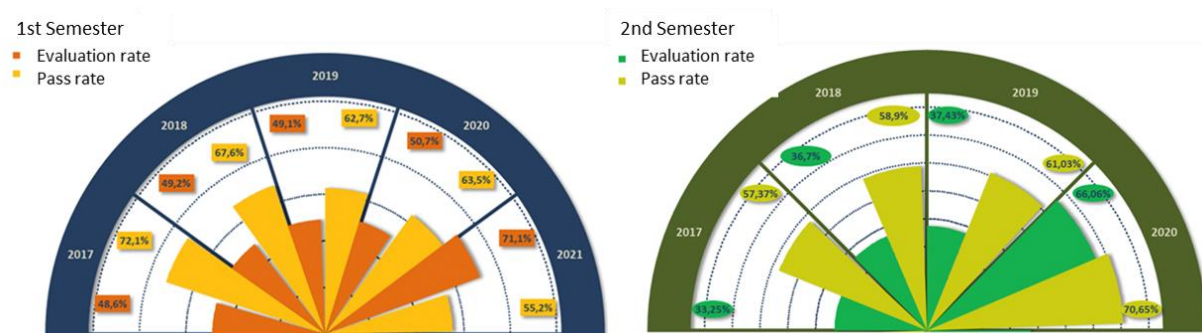


Figure 1. Evaluation and pass rates by semester.

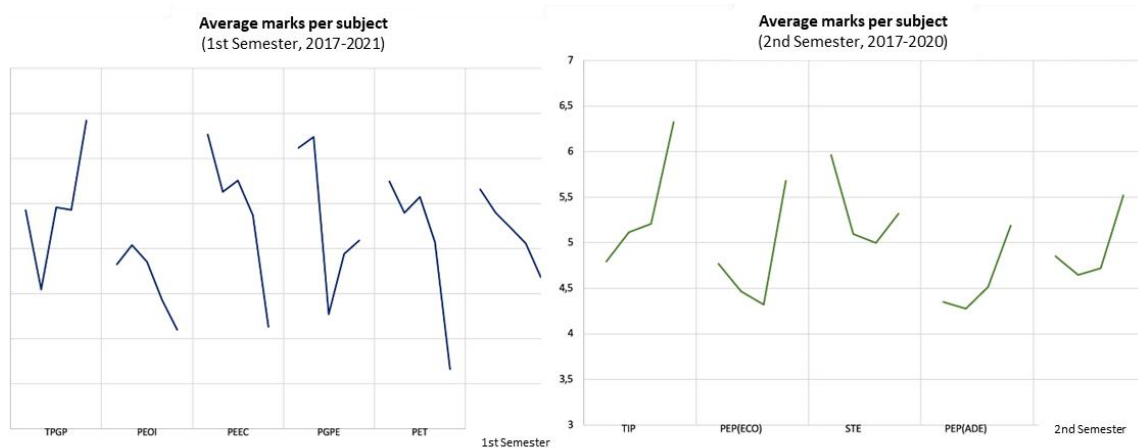


Figure 2. Students' performance. Average marks.

These results suggest that COVID-19 has impacted positively in distance learning students' performance. The next step of the research is to identify the reasons beneath this positive relationship. Thus, a first survey has been sent to the students enrolled during the first semester of the 2020-21 course asking for socioeconomic aspects relevant to the analysis

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and also on their specific socio-labour situation during these months, in which there were still restrictions of movements derived from COVID-19. First results of the survey show that students perceive COVID-19 pandemic have increased their workload and family obligations and negatively affected the studying of the subjects analysed (Figure 3).

How has COVID-19 pandemic affected you on the study of the asginature?

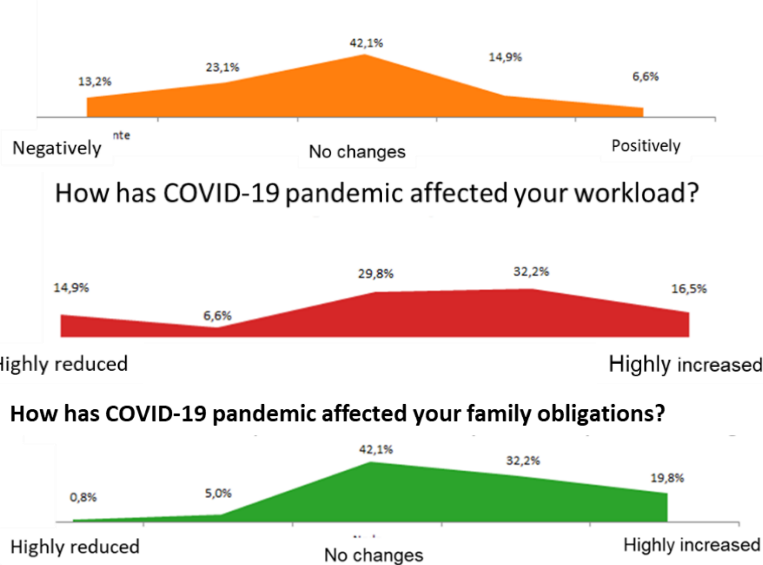


Figure 3. Students' perception of COVID-19 impact on their workload, family obligations and study

Further research is needed to confirm the preliminary conclusions outlined in this communication and determine if the better students' performance during COVID-19 pandemic can be linked to a greater study dedication due to the obligation of staying at home, teleworking and the limitations for carrying out other social activities. Another important aspect to study in depth is that associated with the possible differences in the results obtained from a gender perspective.

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IS THERE A GENDER GAP IN DISTANCE EDUCATION OUTCOMES ON APPLIED ECONOMICS? COVID-19, WORK-LIFE BALANCE AND DIGITAL GAP

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Abstract

This poster presents the preliminary results of an ongoing research on the academic performance of undergraduate students in several applied economics' courses, considering the gender perspective and the social and labour changes resulting from the COVID-19 pandemic. Specifically, the study focuses on some applied economics subjects taught in the distance education modality at UNED, one of the largest European universities by enrolment. In this poster an exploratory analysis of the database is carried out that allows us to propose the hypotheses that will be statistically contrasted in the following phases of the investigation.

Introduction

In general, higher education is thought of as a stage in the first part of adulthood in which young people must make sense of who they are and who they will become, in addition to learning certain knowledge and competencies (Cullen & Castellanos, 2014). However, the profile of UNED students is different, with people who are usually considerably older and who may have spent periods of time out of formal learning. In addition, the increasing need and desire for lifelong learning adds profiles of students who expand and continue with their education. Moreover, the UNED has some unique characteristics in Spain. It has a vocation to ensure equal opportunities and social inclusion. In territorial terms, the UNED has campuses both in large cities and in small towns, more accessible to those living in rural areas. It also has associated centres abroad in Europe, America, and Africa. In social terms, students from penitentiary centres and people with disabilities are highly visible cases of social inclusion, but there is also a generalized profile of students who combine their studies with other responsibilities such as paid work and caring for their families.

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This paper focuses on analysing whether there are gender biases in the learning outcomes of subjects in applied economics at a university where new technologies and virtual platforms are the basis of its teaching, while examination usually happens face-to-face, except over the COVID-19 period. Therefore, it may show different processes and outcomes than teaching and learning in other universities, whether face-to-face or distance. Specifically, the poster presents a gender analysis of the learning outcomes, considering the possible differential effects of measures taken against COVID-19, teaching innovations, and other sociodemographic factors of UNED students.

Gender equality in higher education

In Spain, the vast majority (81.1%) of university students are undergraduate students (both for men and women). In social and legal sciences, almost 81% were under 25 years of age and only 5% were over 30 (M. Universidades, 2020), showing a profile clearly different from that of the UNED students. The average age of male students at the UNED is 36.6 years and 34.7 in the case of female students (Moreno González, 2015b). In social sciences, the average score was 7.26 (7.37 for women and 7.07 for men). It seems that gender equality is achieved, but to confirm this objective we must look deeper, with a higher level of detail, also considering the factors behind traditional gender biases.

What do we know about academic results? Why do we analyse the results of UNED students? For several reasons. On the one hand, although the UNED is a non-face-to-face university, it has the particularity of offering face-to-face services through its associated centres to those who wish to use them. Several studies (Aristovnik et al., 2020; Elumalai et al., 2020; Green et al., 2020; Kamarianos et al., 2020) show the significant challenges for both teachers and students to continue teaching in the context generated by COVID-19 measures. However, few yet analyse academic outcomes. The question is whether the improvement in the academic performance of face-to-face universities due to the change to distance education methodologies observed (Gonzalez et al., 2020) is similar to that which occurred in universities that previously used distance education methodologies such as the UNED and if a gender bias is observed. On the other hand, 75% of UNED students have chosen this university because it gives them the possibility of combining studies with family obligations and 87.8% because it gives them the possibility of combining studies with their work activity (Moreno González, 2015a).

Our objective is to assess if there are gender gaps in the results and what factors may motivate them. To do so, we analyse teaching innovations, before and during COVID-19 periods, sociodemographic characteristics, and other factors outside the university, such as the gender gap in care, which may be affecting differentially the academic results of men and women.

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Database and methodology

The general data of the UNED Statistical Portal are not disaggregated by sex. To carry out an analysis with a gender perspective, it is therefore essential to use a database made ad hoc for the study. A sample of undergraduate students has been used, specifically from various subjects of economic policy, public finance and tax system, all of them taught in the distance education modality from the Applied Economics Department of the UNED. The sample includes mainly students from the degree in Economics, but also from the degrees in Business Administration, Political Science, and Tourism. Only in this last degree, women are majority (Figure 1). Information is available for four academic years, from 2016/2017 to 2019/2020. The sample collects 15,112 registers, the academic results of 6,845 students who have taken one or more subjects, from the first and/or second term of these academic years. Less than 12% are under 25 years old. Over 50, three out of four students are men. The average age of the sample is 37 for men and 36 for women.

Degree in...	Subjects	Year	Term	Type	Academic years					%Women from total
					2016-2017	2017-2018	2018-2019	2019-2020	Total	
Economics	Economic policy, objectives and instruments	3	1	M	345	307	312	262	1.226	29,7%
	Budget and public spending in Spain	4	1	M	282	280	257	233	1.052	29,5%
	Spanish and comparative economic policy	4	1	M	282	306	331	248	1.167	39,9%
	Theory of public revenues	2	2	M	518	519	426	375*	1.838	30,1%
	Public economic policies	3	2	M	406	328	346	293*	1.373	31,3%
	Spanish tax system	4	2	M	418	497	515	275*	1.705	32,9%
Economics /Political Science	Budget and public expenditure theory	2/ 4	1	M/ OP	498	497	450	416	1.861	29,4%
Business Administration	Public economic policies	3	2	M	965	895	797	816*	3.473	42,3%
Tourism	Tourism economic policy	4	1	M	437	372	325	283	1.417	67,3%
	Total (9 subjects)				4151	4001	3759	3201	15112	37,4%

Age	Men	Women	Total	% Women	% Tot.
17-25	478	271	749	36,2%	11,9%
26 - 50	3118	1828	4946	37,0%	78,3%
51-100	466	156	622	25,1%	9,8%
Total	4062	2255	6317	35,7%	100%

* Subjects taught during the period COVID-19, M: mandatory, OP: optional

Figure 1. Number of students per year and subject, and by sex and age (sample of Applied Economics subjects at UNED)

In addition, we are currently working on expanding the information for a sample for 2020-2021 year with an ad-hoc survey including key factors of the learning-teaching process, as well as socio-labour and family. From a quantitative approach, the academic results (assessment rate, success rate, and average score) are analysed, considering the sex variable systematically, and considering factors that may contribute to explain the differences observed. The variety of subjects in the sample allows us to analyse differences considering control and treatment groups, in semi-experiment conditions such as the case of movement restriction due to COVID-19. We can compare academic years without COVID-19 vs. COVID-19 year besides the first term of 2019-2020 (October 2019 – February 2020) in contrast to the second term (March – June 2020). The first term was not affected by the COVID, but the lockdown was established in the second term.

Academic results considering gender perspective and COVID-19 shock

We wanted to capture if the lockdown and the change to online exams have produced significant changes in students' results. The assessment rate (examined/enrolled) in the degree in Economics was 59.1% at UNED in 2020. In the subjects analysed, the average assessment rate over the last three previous academic years was over 40%, slightly higher for women than men. In the first term of 2020, the assessment rates kept quite stable: from 48.8% as average in three previous years to 51% among men and from 49.2% to 50.2% among women. Over the second term of 2020, when the lockdown was declared, a significant increase of the assessment rate among men and women was observed: from 34.9% to 64% among men and from 37.3% to 69.8% among women.

Using the selected sample and only ordinary exams, we analyse the evolution of the success rate. Men's success rate on average over the four years analysed is 67.3% while women's one is 60.3% (Figure 2). The success rate of men was 11.3 percentage points (p.p) higher than women, on average, in subjects of the first term of the three previous years (10.5 p.p. in 2020). However, there was a significant change in the second term, from 4.5 p.p. of difference on average to almost zero. The trend of the gap is also relevant, as in the second semester, the direction of the gap has reversed in comparison to the first term in 2019, but in 2020 the men's success rate become higher again, but just slightly.

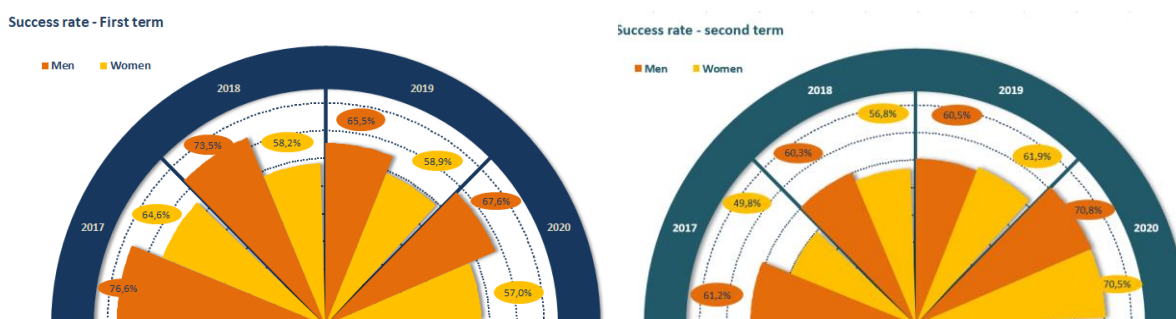


Figure 2. Success rate in ordinary exams by term and academic year (2016-2020), by sex

Regarding the mean scores, gender differences are also observed. There are statistically significant differences at 99% between men and women. It is observed that these differences exist when considering other variables such as age or subject. Considering only students who have passed the subjects, in each and all subjects and age groups, average grades are higher for men than women, this difference varies between 0.1 and 0.6 points. On average, female students obtained 5.9 and male students received 6.2. Considering all students examined, average marks keep being higher for men than women and women's overpass in 2019 second term is reversed in the term characterised by the lockdown (Figure 3). Lockdown affected differently to workload to men and women (Figure 4).

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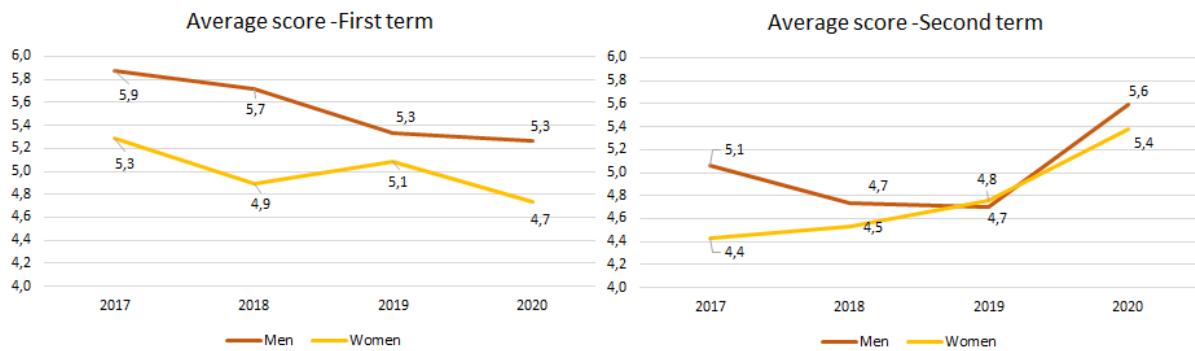


Figure 3. Average score by term and academic year (2017-2020), by sex

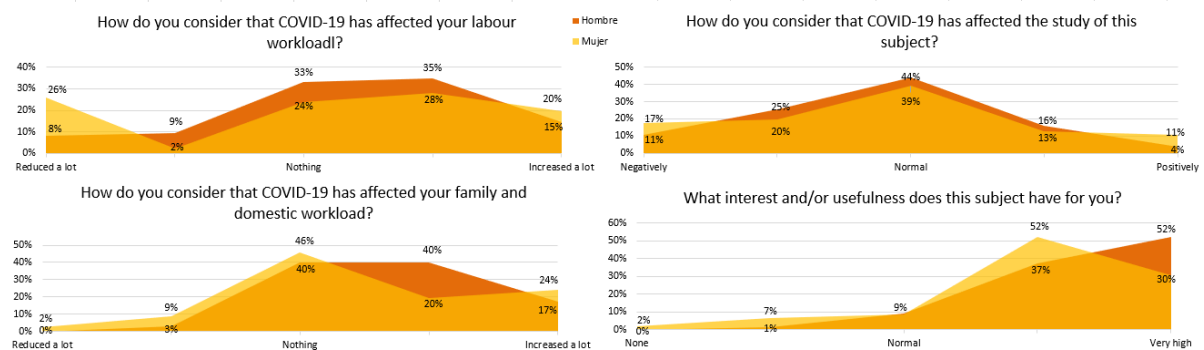


Figure 4. Effects perceived of COVID-19 on labour, family and domestic workload and study, by sex (2020)

Use of digital platforms, teaching innovation and COVID-19 lockdown

Certain gender biases are observed in the use of digital platforms, although most men and women (88% and 91.3%, respectively) perceive they have strong digital competences. Women use them less than proportionally with respect to students enrolled per subject. In addition, it is observed that the mobility restriction due to COVID-19 led to an immediate activity increase in the learning platform by men, while women follow a time lag. Both the effects of the teaching innovation and the COVID-19 converge in time, but not in all subjects, so it will be observed whether there is evidence of the success of the changes proposed in some subjects and how it affects gender bias (Figure 5).

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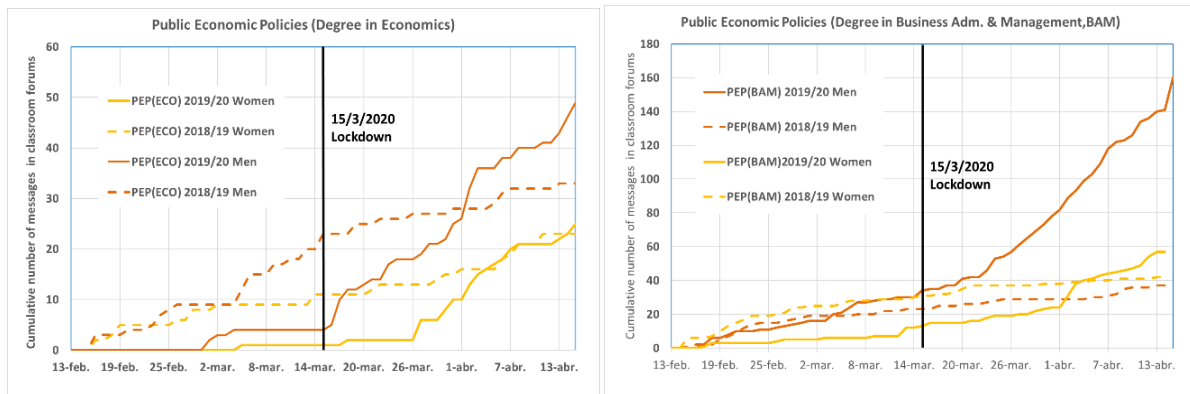


Figure 5. Cumulative number of messages by sex (Public Economic Policies in BA and Economics Degrees)

Conclusions

With this exploratory analysis we have found some preliminary results regarding gender biases in academic outcomes based on which we will try to contrast the following hypotheses:

- The academic consequences of the COVID-19 period have affected students differently by sex.
- Participation in virtual platforms has also changed differently by sex.
- Changes in the work-life balance by sex due to COVID-19 seem to have affected academic results.

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CHALLENGES AND SOLUTIONS: THE WEAVING WEBS OF STORIES PROJECT

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Abstract

In the pandemic context of 2020, the EuroEd School and Foundation faced a new challenge: continuing not only its teaching processes but also developing its European projects during the lockdown. All the Erasmus+ projects the organisation is involved in include a piloting stage running in associated partner schools, where the outputs of the projects are tested and evaluated. This crucial stage in the development of the projects had always been done face-to-face in all partner schools before the pandemic. The article focuses on The Weaving Webs of Stories project, the challenges encountered and solutions provided when transferring it from the face-to-face to the online environment.

Managing changes during the pandemic

In the pandemic context of 2020, the EuroEd School and Foundation faced new challenges: continuing not only the teaching / learning processes but also developing its European projects during the lockdown. The existing pandemic context required the use of another medium: during the lockdown, the projects had to be successfully implemented online. One of the main challenges associated with this endeavour was change management. Our main objective was rebranding both digitally and pedagogically. This meant improving the organization by updating technologies, solving problems, seizing opportunities, aligning work and strategy and streamlining information flow within the organization. It also included preparing, training and supporting our staff and associated partners, establishing the necessary steps for change, and monitoring pre- and post-change activities to ensure successful implementation. To this end, we used a wide range of strategies: discussions with colleagues about the changes we wanted to implement, building the team, shaping the vision (goals, objectives and strategy), identifying the resources needed to make the change and planning the steps to communicating openly and frequently. We also empowered colleagues to engage in the change process by giving them freedom to make their own decisions and implement new ideas. We never gave up, we incorporated the

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change and made it part of our workplace culture. We aimed at creating learning communities which connect organizations that are eager to learn and work across boundaries for a shared goal.

Our teachers did technical and pedagogical training courses on online teaching organised and run within our institution, which enabled them to manage the online environment, live sessions and digital apps. Pedagogical training looked in detail at the online learning/teaching processes. Courses focused on how and why to use certain methods, techniques, activities or apps, how to motivate students, how to increase student participation and engagement, how to digitise their activities and how to assess in the online environment. Following the training, teachers cascaded their knowledge and new skills to parents and children, who were taught how to use the new platforms and apps.

The Weaving Webs of Stories project

We started with the Weaving Webs of Stories Erasmus+ project by addressing primary and secondary school children from 7 to 13 years old and their teachers. The associated partner was a school situated approximately 100 km away from our city, so all activities had to be carried out online. The Weaving Webs of Stories project is expected not only to improve children's literacy skills but also to develop their understanding of inclusion, diversity and equality, and enhance creativity, self-confidence and motivation to become lifelong readers.

We carefully selected a list of books according to the children's age and interests, as well as the project's main values: equality, diversity and inclusion. We chose short texts so that the children would not lose their concentration or we spread longer stories over the session and engaged children in pre-, while- and post-listening / reading tasks in between (i.e. predicting, guessing what will happen next in the story). Stories embracing diversity, equality and inclusion topics are a rich vital learning source for our children, promoting positive attitudes and behaviour towards equality and diversity and setting examples which can be followed. Stories generate discussion about bias and discrimination, challenge students' thinking and make them reflect on their attitudes and values.

Our planning considered encouraging children to both read and write stories. Reading out loud in the form of a dialogue between children and adults stimulated the children's imagination and curiosity, just like the use of pictures, online activities (word associations, synonyms, word explanations, word families, bingo), discussions (likes and dislikes, lessons learned) or drawings.

The reading stage also gave children insights into the structure of a story by drawing their attention to its main elements (setting, plot, character) (Figures 1 & 2).



Figure 2. Main elements of a story

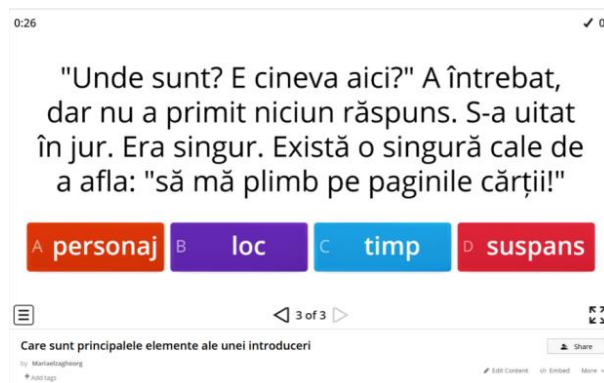


Figure 2. The introduction to a story

Technology facilitated understanding of literary concepts such as character, setting, events, problem, resolution; interactive activities worked very well with our 10-year olds throughout their reading journey (Figures 3, 4, 5).



Figure 3. The significance of the titles



Figure 4. Characters and places



Figure 5. Who is your character?

It was a gradual process which paved the way for the writing section of the project. We used effective strategies for improving writing skills, tapping into children's interests through the use of technology, implementing interactive writing techniques (asking students for ideas to complete sentences, stories, etc.) or diverse literacy practices (graphic organizers, cooperative learning, scaffolding, reading aloud or group discussions).

Preparing and planning teaching online

Zoom was the platform which accommodated all our virtual meetings. We set expectations for online participation, communication and netiquette and had clear protocols for turn-taking as well as instructions on how to use the chat box or the hand raising function. We usually planned 3 or 4 different tasks per session and used a PowerPoint presentation to support all its stages. The slides were accompanied by images, icons, tables and illustrations to support our tasks, as well as "welcome" and "thank you" screens for the beginning and ending of each session. We started off with simple brainstorming exercises having children typing their replies in the chat box, or writing them on the whiteboard or the Padlet app. Other apps and platforms such as WordWall, Cloze, Kahoot, BookWidgets or Mentimeter encouraged children to engage in quick word games to practise vocabulary.

Challenges and Solutions: The Weaving Webs of Stories Project

Discussions worked well in breakout rooms too, especially when they centred round a meaningful task to which everybody had to contribute, negotiate commonly agreed upon answers and report back in plenary at the end of the activity. Such tasks with a clear goal were successfully carried out in the breakout rooms (children worked together to provide a suitable outcome for the characters by solving a mystery or finding solutions to an issue, deciding on matters of importance to their community and creating a presentation, a poster or a story in their group). Image-based activities provided the necessary scaffolding and stimulated conversation (for instance, we shared a photo of the protagonist and asked children to annotate questions addressed to the character).

Challenges and solutions

The challenges we encountered related to creating a trustworthy atmosphere with a group of children we had never met in person, how to elicit interaction and collaboration and how to develop autonomy in the online environment.

How to create a trustworthy atmosphere

Creating good relationships and a relaxing atmosphere is important in the online environment. We started each session by having five-minute informal conversations which allowed students to bring their culture and identity into the classroom. In this respect, we asked children to show us (pictures of) their pets, their little brothers and sisters or to talk about their favourite objects and books. We wanted our students to feel part of a reading community. Warm up and energising activities proved to be useful in our focus on student wellbeing as they made students open up, share and relax.

In time we succeeded in gaining children's trust. We taught them that mistakes are normal steps in the learning process and therefore failure should be considered a learning opportunity which encourages development. Sometimes we needed to engage in small talks because a child suddenly became shy or uncomfortable. Emoticons and the chat box were useful in encouraging reactions and expressing opinions. We were always present by asking children in the private chat if everything was fine or by moving through breakout rooms and monitoring activities. We asked children to give us feedback (*What are your questions? / How did you feel today?*) and gave them choices to express themselves either writing their views in the chat box or saying them out loud.

Interaction

Stories provide opportunities for children to talk and interact with their peers. We encouraged three types of interaction: student-student, teacher-student and student-content. Children were encouraged to interact with the teacher and their peers individually in the chat, in groups (in the breakout rooms) or in plenary (orally or via chat). Breakout

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rooms were particularly useful for pair work and group work to practise activities, share ideas, or do tasks that encouraged interaction such as problem-solving, providing a beginning or ending to a story, making up a story according to some given clues or discussing and negotiating an issue (CUP, 2018; English teaching 101, 2020). As to student-content interaction, the most successful strategy was prediction. Predicting required the children to use the clues provided by the author in the text and to rely on what they knew from their personal experience or previous knowledge (Pinterest, 2014; VSG, 2014; Top Notch Teaching, 2018). They had to combine these two aspects to make relevant and logical predictions. When looking for evidence in the text to support their assumptions, children also asked questions, reread, interpreted, drew conclusions, and, as a result, comprehended the text better. It was also a fun and engaging activity; children talked about what was happening in the story, which stimulated their motivation to listen to or read the story and check if their predictions came true or not. The title of the book, the front and back covers, illustrations, a specific passage enabled children to make connections between new information and what they already knew. The use of online discussions combined all three above-mentioned forms of interaction. Children read or watched the materials to prepare for the discussion, then shared their thoughts with peers, and ultimately received feedback from the teacher.

Each online session was accompanied by discussions with teachers about the main issues that surfaced in the live meeting. Teachers looked into and assessed each strategy, analysed the children's reactions and discussed ways of enhancing their engagement. For instance, it was unanimously agreed that prediction was worth taking into consideration as it encouraged children to think ahead and ask questions, to interact with the text and understand the story better. Predicting what was going to happen when reading a story gave children a reason to read (to find out if their predictions were right), activated language or vocabulary and also improved their comprehension.

Collaboration and communication

As collaborative learning is at the core of a successful distance learning environment, we used breakout rooms and had children work with peers on tasks, be they presentations, stories or posters. Such group interactions introduced children to the art of constructive and enjoyable conversations within teams focused on tasks; they enabled practising active listening, turn taking, negotiating, knowledge sharing, co-creation of knowledge. In time, a supportive e-learning community emerged, a sense of community and assuming an active role and responsibility for their learning.

Enhancing student autonomy

Children spend a lot of time on their own behind the screen watching videos, answering questions or doing online exercises, most of the time with no adult around. We used several ways to promote student autonomy in online discussions. Expecting them to employ decision-making skills encouraged them to think autonomously. We often provided multiple prompts to choose for tasks. Children were allowed to choose their mode of response to discussions: an online, written, audio, visual, or multimedia response. Below are several ways children accomplished their task: the creation of an e-book, an animated video, drawing and reading aloud (Figures 6, 7, 8).



Figure 6. Ebook

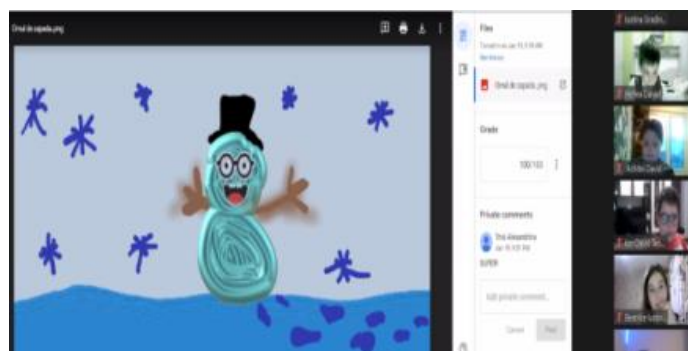


Figure 7 Animated video



Figure 8. Oral presentation

Children were also encouraged to take the initiative and learn new modes of presentation or video editing or use a new app and presentation software.

Conclusions

We realised that we, teachers, have to become agents of change, get out of our comfort zone and teach our colleagues and students change skills which enable them to adapt, seize opportunities and evolve. The benefits of the steps we have taken are visible in the children's progress in language and literacy learning, in understanding the value of diversity, and in promoting a positive outlook towards school, learning and peers. Technology-wise, a learning community of teachers, students and parents getting richer after all the lessons learnt during the pandemic.

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PEDAGOGICAL AFFORDANCES WHEN TRANSITIONING TO HYBRID FORMS OF LEARNING

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Abstract

This paper analyses how school leaders in City of Stockholm can participate in skills development in a flexible manner and adapt the workload to their individual capacity. There is an increasing pressure on organizations to undergo digital transformation and transitioning from emergency remote teaching to navigating what has been called ‘the new normal’ after the COVID-19 pandemic. The analysis is a mixed Delphi method, where our expert panel examine what happens when face-to-face Continuous Professional Development (CPD) transition to hybrid forms of learning. Predictions will be verified by the participants according to the Load Reduction Instruction Scale (LRIS). Taking an online course that present perspectives on inclusive learning environments as its case, the study reveals how participants can offload intrinsic cognitive load when applying the content in the workplace between sessions. There is also evidence that using the service design approach supports co-creation of services in the public sector.

Introduction

Continuous professional development for people working in educational settings is part of our systematic quality development work, which is described as directives and intentions in the Swedish education system. During the COVID-19 pandemic, hybrid forms of skills development tend to increase, and face-to-face seminars were often changed into webinars supported by peer interaction and guidelines (OECD, 2021). One macro-trend identified to have the highest impact on instructional design is blended and hybrid course models, due to flexible movement between remote and in-person experiences (Pelletier et al., 2021). Since organisations now are talking about the “new normal”, there is a need for a more long-term strategy to retain the benefits from hybrid forms of learning.

The aim for this initiative was to design an e-learning solution for research-based Continuous Professional Development to comply with COVID-19 restrictions and regulations. Our idea was that a hybrid course design encourages participants to apply the

acquired skill and knowledge in independent, novel, and creative ways (Martin & Evans, 2018). The term *hybrid* and *blended* learning strategies are often used interchangeably, but the design principle of in this study will combine researched-based content in an online course with practice situated in the workplace. This strategy has also been called Continuous Professional Development (CPD), which provide participants with the theory underlying the new instructional strategies and opportunities to practice these in their own context. This process normally also includes demonstrations and exchanging ideas with colleagues or peers (Joyce & Showers, 2002). According to the cognitive load theory participants working memory is freed up when there is sufficient opportunity for practice. This will also create enhanced fluency and automaticity, which is needed for higher-order thinking and the ability to apply skills and knowledge to new problems (Martin, 2016). Now our municipality take part in an initiative to introduce user-driven innovation in public sector. This service design approach uses step-by-step instructions with templates and films, which we believe will provide support and scaffolding when learning new skills and knowledge (Holmlid, 2009).

As we know, school leaders have an important role in the implementation of educational reform and school development (Spector et al., 2016). In this initiative the City of Stockholm has invested funds and resources to support the school leaders from approximately 300 compulsory schools to implement strategies for inclusive learning environments. Our department of research and development (FoU), supports schools in building research-based education. According to the Swedish Education Act *Education should be based on a scientific ground and proven experience* (Swedish Government, 2010). The topic of inclusion is also expressed in our school development program as “All people are unique and need different support and stimulation to learn and develop. Therefore, we compensate for background factors that research shows can otherwise affect the development of knowledge” (Skolprogram, 2018). Each school district leader will during participation make sure that peer groups are created, and the impact of transformed practice will be evaluated during the fourth quarter (Q4) of the annual systematic quality development cycle.

This study will be a part of my master’s theses in adult learning at Linköping University and the theoretical perspectives for implementation of digitalization processes in educational settings was studied at Jönköping University.

Research Questions

The goal of this study is to find a long-term strategy with a balance between face-to-face seminars and hybrid forms of learning. To explore the pedagogical affordances the following research questions were addressed:

- Q1: Does hybrid forms of learning improve guided independence among participants?
- Q2: Does the e-learning solution allow opportunity for sufficient practice between sessions?
- Q3: Does the service design approach provide support and scaffolding as participants learn a topic or skill?

E-learning Solution for recorded seminars

The planning of this continuous professional development was done during spring 2021 and involved transfer of new skills and knowledge with recorded seminars. The timeframe for the hybrid e-learning solution was initiated with the formation of the expert panel and the process was then divided into planning, implementation as well as assessment and evaluation (Table 1).

Table 1: Timeframe and stages for the hybrid e-learning solution

Stage	Content	Duration
Expert panel formation	Select a panel of three experts with different competence: Pedagogy, Content and Technical	January-March 2021
Planning	Derive factors, organise and remove overlapping ones. Design the sequence of seminars and grouping the factors	March-May 2021
Implementation	Encourage the participants to assess the design. Reflect on results	May-June 2021
Assessment and Evaluation	Re-examine the factors. Verify the opinion of the expert panel with LRI-factor from participants	August-September 2021

In the beginning, our leader board of stakeholders allocated resources and formulated goals in order to start the design of the e-learning solution (i.e. backward design). The content in this educational resource was perspectives on inclusive learning environments and had school leaders from our compulsory schools as target audience. In total six seminars were recorded and divided into a sequence of three sections that each had an approximate duration of 20-25 minutes excluding peer discussions (Appendix A). The content focused on the Universal Design for Learning (UDL) framework that recently been

translated to Swedish (Andersson et al., 2020) where one of our presenter Linda P. Ewe from Kristianstad University was involved. After a short introduction by our director of compulsory schools Lee Orberon, Linda introduced the research-based content of the course. The two following seminars were presented by experts from Konradsbersskolan and Rålabshovsskolan with over five years' experience in working with UDL. The last section high-lights strategies for inclusive learning environments based on experience from Enbacksskolan and Oxhagsskolan. To compliment the recorded seminar, our municipal center for accessible educational materials called Skoldatateket created strategies and guidelines for discussion.

Our e-learning platform is built with Totara Learn as learning management system (LMS) and the technical design involved uploading the recordings as interactive video (Joubel, 2013) created with open source HTML5 Package (H5P) based on JavaScripts. The effect is that the participants will experience that the media content will pause at specific times to present peer discussion activities as a pop-up screen (Appendix B). We also made the material available on the platform for downloading, if any participant needed them in a different format.

Methods

The analysis is a mixed Delphi method that is divided in two parts: (a) Predictions from three experts to create the e-learning solution (b) verification by participants of the predictions according to the Load Reduction Instruction Scale (LRIS). To gather the qualitative predictions from our group of experts we selected a panel with different competences. One was from the department of research and development (FoU), with experience from what support school leaders need to develop their school from an organisational perspective. The second expert was from the centre for accessible educational materials (Skoldatateket), with content knowledge from an inclusive perspective. Finally, my role was to participate as an e-learning specialist and acted as facilitator for the three rounds of Delphi Method (Figure 1). According to the study of Rapanta et al. (2020), the predictions of experts are seen as “crystallization points for practical insider knowledge”. Each cycle involves collection and aggregation of predictions based on an initial question, which run until the announced predictions end up with a level of consensus (Turoff & Linstone, 2002). The main benefit it that the prototype for the hybrid e-learning solution could be developed relatively quick, without involving to many resources.

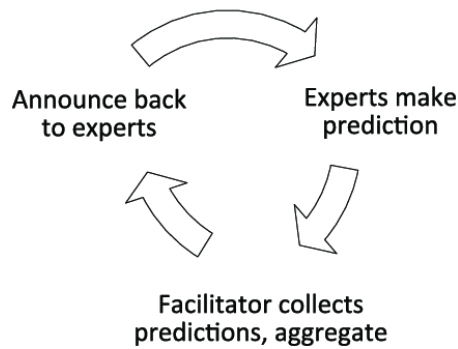


Figure 1. Three rounds of Delphi Method (Seker, 2015; p.368)

According to the “cognitive load theory”, the meaning structures from experiences in the environment are stored in long-term memory. When learning new material, participants must first discover the underlying meaning and the cognitive load is increased by distractions in the design as well as the complexity of the subject (Sweller, 1994). In the book *Advances in cognitive load theory: Rethinking teaching* (Tindall-Ford et al., 2020) this theory has been used to create the Load Reduction Instruction (LRI) framework (Figure 2).

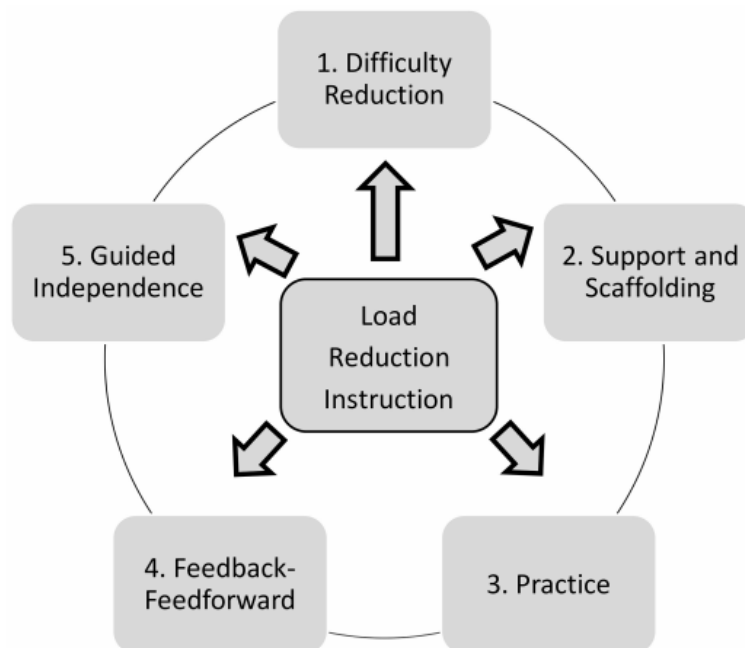


Figure 2. Load reduction instruction (LRI) framework (Tindall-Ford et al., 2019; p.35)

This framework includes instructional approaches to reduce cognitive load and use the Load Reduction Instruction Scale (LRIS) to rate teacher’s instructional practice. A quantitative LRI-factor is then created from the five areas including five indicators each resulting in 25 items.

Expected results

Based on insights from expert on newly emerging topics during and after the Covid-19 crisis (Rapanta et al., 2020), this paper in progress will draw conclusions from three of the identified pedagogical affordances when transitioning to hybrid forms of learning. The preliminary results find a relation between the interventions incorporated in the e-learning solution and the Load Reducing Instruction (LRI) factors (Table 2).

Table 2: List of pedagogical affordances when transitioning to hybrid forms of learning, with Load Reducing Instruction (LRI) factors related to interventions incorporated in the e-learning solution

Pedagogical affordances	LRI-factors	Interventions
Self-regulation and autonomy	Include guided independence	Hybrid forms of learning
Pacing and reflection	Create opportunity for practice	Cognitive Load Theory
Peer collaboration and group assignments	Provide support and scaffolding	Service design Approach

The next stage is going to involve verification of the predictions from the experts with the LRI-factor perceived by the participants. To determine pedagogical affordances the group of experts will try to compare the result with traditional face-to-face seminars. Our hypothesis is that “hybrid learning increase possibilities for self-regulation and autonomy”, “the Cognitive Load Theory provide evidence that an E-learning solution can have a positive effect on pacing and reflection” and “The service design approach support and scaffold peer collaboration and group assignments”. The future development of this study will be to also include the factor of the LRI framework for “difficulty reduction” and “feedback-feed-forward”.

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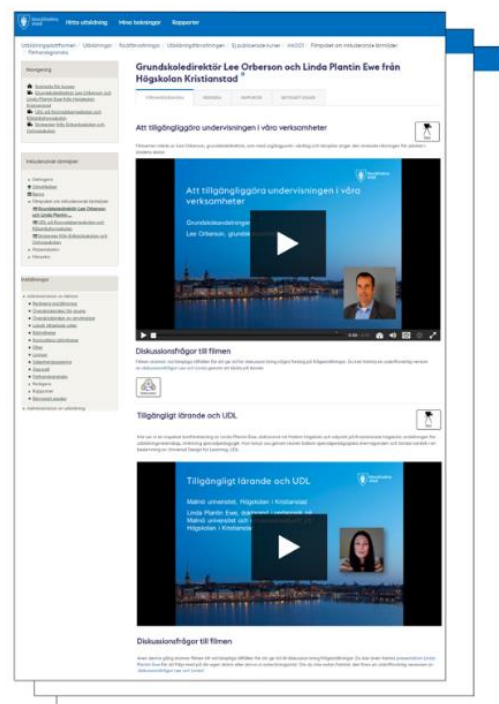
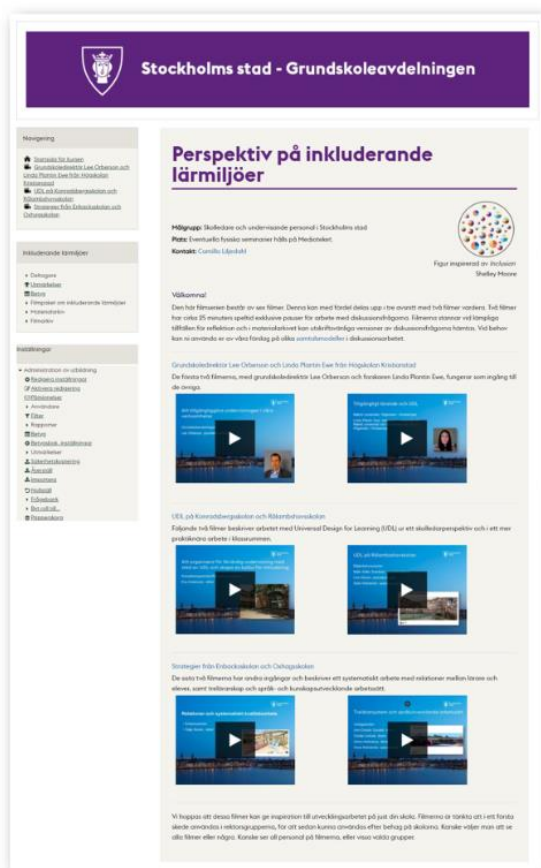
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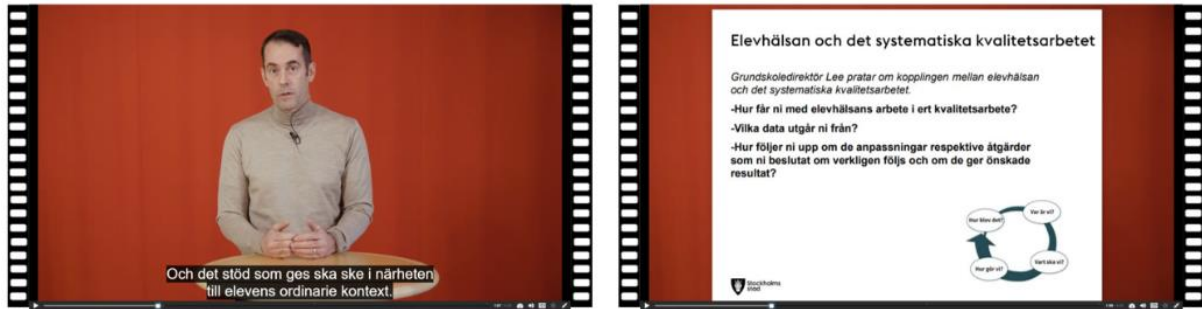
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Appendix A



Description: Course landing page and the three sections with two videos and guidelines for peer interactions

Appendix B



Description: The first interactive video created with open source HTML5 Package (H5P) based on JavaScripts

PROMOTING OPEN EDUCATION THROUGH GAMIFICATION – CATCH THE OPEN! A SERIOUS INTERACTIVE LEARNING GAME

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Short Description

Come and meet Alex, a young teacher who has been tasked by the Rector of her university to *Catch the Open!* Users move through lecture halls and labs of a University-inspired web-based 2D virtual world to explore and learn about Open Educational Resources (OER) and Open Educational Practices (OEP) by engaging with students and colleagues and solving small tasks on their journey to master teaching in the open. The *Catch the Open!* game has been developed as part of the Erasmus+ funded *OpenGame* project (<https://opengame-project.eu/>). In order to broadly contribute to the open knowledge movement, the game was developed in English, as project *Lingua Franca*, and translated into German, Portuguese, Spanish and French.

The aim of the demonstration is to show participants how the individually developed 8 modules were derived based on a theoretical approach – grounded in desk research and interviews as well as a real-case-based collection of Open Practices which were systematically transformed into related knowledge and skills and further key competences comprising OER and Open pedagogies (the so-called *OpenGame Open Education Competences Framework*) – and then translated into hands-on learning activities users engage with as part of the interactive learning game. While the game and its features, such as different learning activities as well as small assessments and quizzes, will be presented live during the demonstration, participants are also given the opportunity to personally test the game and share their ideas and feedback related to the game. An additional written feedback form taking into account findings from research, such as Nielsen Norman's usability heuristics for video games (Joyce, 2019) as well as Toda et al. (2019), will round off the session.

Promoting Open Education through Gamification – Catch the Open! A Serious Interactive Learning Game

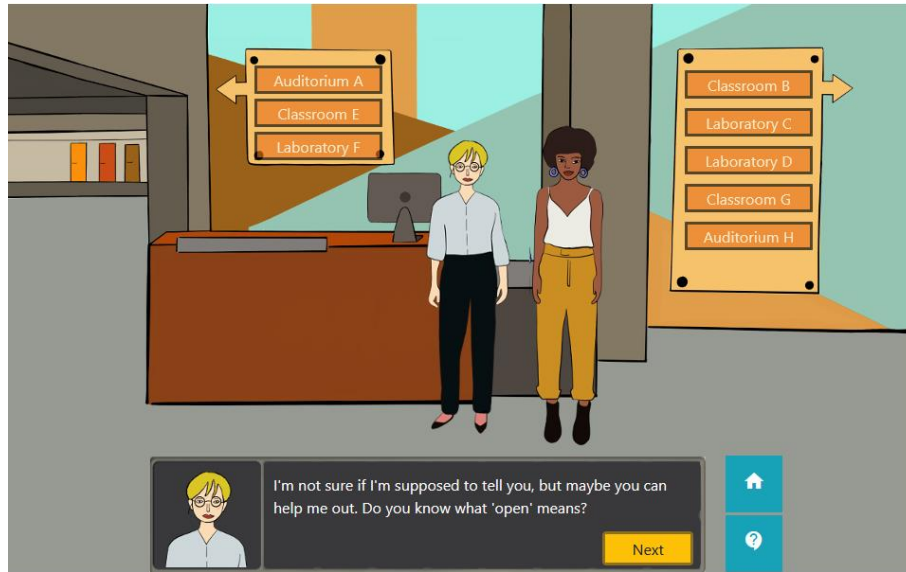


Figure 3. "Home room" leading to different rooms corresponding with 8 modules

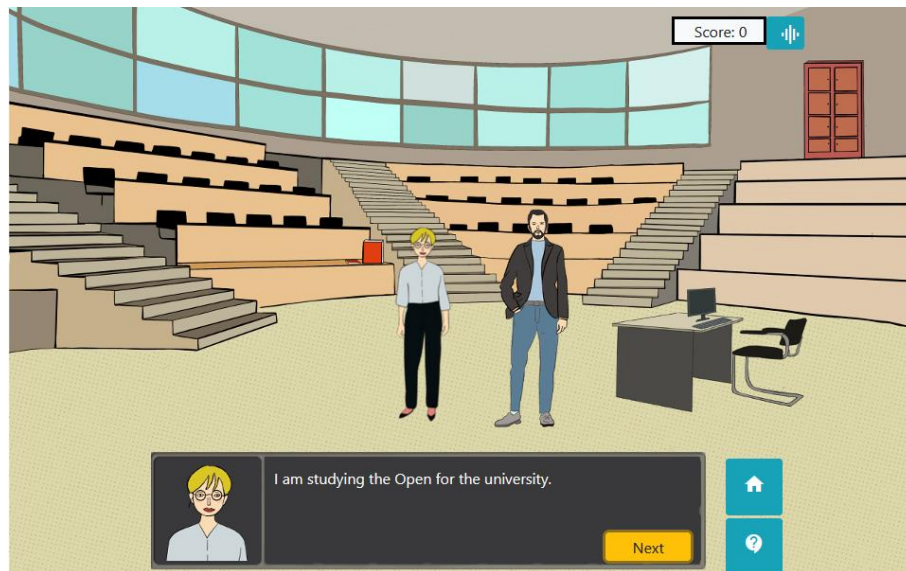


Figure 2. Exemplary room (Auditorium A) corresponding to Competence 1 of the OpenGame Competence Framework

Competence area	Competence	A. Attitude	B. Knowledge	C. Skills
1. OER	1. Use open licenses	Be ready to openly share one's work and to use the knowledge created by others and openly distributed in order to improve access, participation and quality of teaching and learning	Understand the (comparative) advantages of using open licences and know the existing open licences types	1.1. Know how to apply a CC license to teaching resources 1.2. Recognize the respective requirements and restrictions of a licence and know how to determine whether a resource has one
	2. Search for OER		Know the major OER repositories and be able to identify those that are the most suited to your needs	2.1. Find OER that are relevant for own teaching 2.2. Assess materials within existing OER resources in order to use them
	3. Create, revise and remix OER		Know the different options for adaptation of an OER (translation, illustration, accessibility, contextualization, etc.)	3.1. Create an OER, taking into account the specificities of licences as well as its potential for reuse (format, language, granularity) 3.2. Revise an OER, taking into account the specificities of licences 3.3. Create an OER composed of various OERs, taking into account the specificities of licences
	4. Share OER		Know reputed OER repositories most suited for OER creators and cocreators to disseminate their creations for wider impact	4.1. Identify relevant OER repositories and publish your resource 4.2. Share your resource through social media and other means
2. Open pedagogies	5. Design open educational experiences		Know strategies on how to allow students participation in curriculum and learning design	5.1 Design engaging open educational experiences
	6. Guide students to learn in the open		Know about connected and network learning strategies. Be aware of the issues connected to online privacy and personal data management	6.1. Support students to learn through the open web (social networks, online communities etc.) 6.2. Provide guidance to students about online privacy and personal data management
	7. Teach with OER		Master knowledge related to 1, 2, 3 and 4 above	7.1. Support students in searching for and using OER (either collaboratively or individually) 7.2. Support students in producing OER (either collaboratively or individually)
	8. Implement open assessment		Know the comparative advantages of open assessment and be aware of existing open assessment methods and tools	8.1. Deploy OER within an assessment (e.g. students analyse an open data set) 8.2. Guide students in doing their work in the public (e.g. blogging publicly) 8.3. Guiding students in producing OER for summative assessment

Figure 3. OpenGame Open Education Competences Framework

Project context

The OpenGame (Promoting Open Education through Gamification – Erasmus+ ref. 2019-1-ES01-KA203-065815) project consortium includes higher education institutes from across Europe, namely Universidad Internacional de la Rioja (UNIR – Project Coordinator), The University of Salamanca (USAL), University of Nantes (UNAN), Universidade Aberta (UAb), Baden-Wuerttemberg Cooperative State University Karlsruhe (DBHW Karlsruhe) and Dublin City University (DCU). Furthermore, the project consortium is completed by two important networks, the Open Education Consortium and the International Council for Open and Distance Education (ICDE), as associated partners.

- For more information on the project, please visit: <https://opengame-project.eu>
- Access to game's test version (please register and use English version – translations in progress): <https://opengame-project.eu/play/>
- Underlying Course Curriculum and Content (Intellectual Output 2 of OpenGame project, 30th September, 2020): <https://opengame-project.eu/wp-content/uploads/2020/11/OpenGame-IO2-CourseCurriculumAndContent.pdf>
- Handbook of Successful Open Teaching Practices (Intellectual Output 1 of OpenGame project, XX): <https://opengame-project.eu/wp-content/uploads/2020/07/OpenGame-IO1-HandbookOfSuccessfulOpenPractices.pdf>

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ACCOMPANY BOYS AND GIRLS TO ART GALLERIES IN UNCERTAIN TIMES – PROJECT OF A SUPPORT SITE

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Abstract

The academic situations caused by the social distance measures as a result of the COVID-19 pandemic have also affected the projects that are supported by the scholarships awarded to students. In the case of the Accompaniment Project for children in art galleries of the Cardenal Spínola University Center, the activities that had been developed aimed at motivating families to visit art galleries had to be suspended. To alleviate the situation, without detriment to the granting of scholarships, the project is reoriented to the construction of a website that, in addition to serving to guide and train scholarship holders through the service-learning (SL) will enable online support that would allow them to maintain contact with families.

The Accompaniment Project for boys and girls in art galleries

The activity begins in the 2017-2018 academic year as an internal project of a university centre with an interdisciplinary approach integrating Pedagogy, Music, and Fine Arts teachers. Its origin is a collaborative project that involves teachers, scholarship holders, and internal students of the 3rd and 4th years of the Infant and Primary Education Degrees.

After the signing of the agreement between the university centre (attached to the University of Seville) and AGAS (Association of art galleries of Seville), on-site and systematic accompaniment is developed in the visits of families to the galleries. Each meeting is publicized through social networks, fliers, etc. A distribution list of attending families is created to communicate the events that take place on Saturday mornings.

The action of the students is framed in the modality of service-learning (SL). Its function is to support and help families, boys and girls to conquer galleries as learning spaces; awakening their curiosity and interest in culture, encouraging dialogue and communication. In coordination with the teachers, they carry out the design of activities and interact in person with the boys and girls attending.

Project redesign

From the 2017-2018 school year and subsequent years, until the pandemic broke out in 2020, the activities were carried out monthly or bi-monthly. As a result of the sanitary emergency, in the year 2019-2020, the project is redesigned, resulting in creating a support website that, although far from the face-to-face spirit of origin, aims to keep contact with families alive.

The webspace: Project boys and girls in art galleries

The website contains the basic sections to inform, and gives open proposals of activities to the specific families for each exhibition. The first interface is divided into sections: *Home*, *Who are we*, *Our project*, *Story* and *Contact*. Two side columns contain the press reviews and publications related to the project. A central mosaic gives access to the exhibitions already visited and the current ones. Each image of the mosaic gives way to a specific interface of each gallery it contains: an upper carousel with the works on display; a link to the gallery. Below, you can access the download of the documents of the activity proposals and another carousel with a sample of the presence of families in the event and the activities of the children that can be uploaded to the web through the *Contact* section (<https://acompgalerias.wixsite.com/proyectogaleriasceu>).

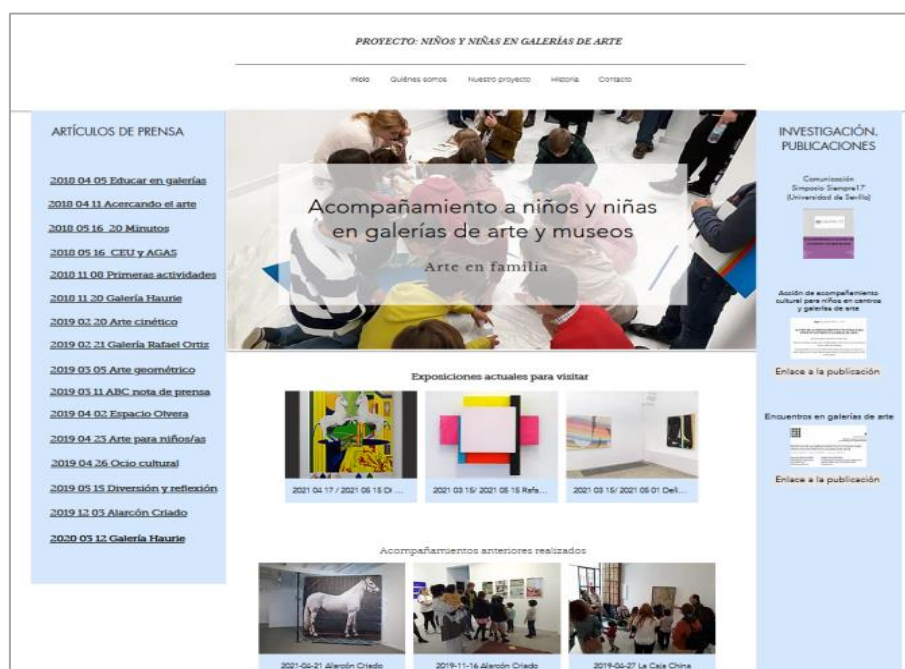


Figure 1. Home interface of the web "Project Boys and girls in art galleries". The mosaic includes each of the exhibitions.



Figure 2. The specific page of each meeting in the gallery's exhibition space

Innovate through a webspace

ICTs have made it possible to create a web tool that enables continuous changes and modifications, being able to be fed according to the encounters and the needs that occur.

The potential of this practical innovation consists in the possibility of implementation in other projects with similar characteristics in educational environments; at the same time that it allows to continue the learning of the service and the expansion in other media appropriate to needs of service-learning (SL) in University students.

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DISTANT EDUCATION IN THE FRAMEWORK OF THE MNET PROJECT

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Abstract

The microNet (μ Net) project aims for the deployment and long-term operation of an extensive school network of educational cosmic ray telescopes in Greece. In the framework of μ Net, an extended educational program will take place, encompassing educational activities for the construction, testing and operation of μ Cosmics (microCosmics) detectors, as well as for the remote operation of cosmic ray detection stations and astroparticle physics experimental devices deployed at the Hellenic Open University (HOU) campus. A pilot run of the μ Net project started in 2020 aiming for the deployment and operation of a small school network in western Greece. Although the original design aimed for the construction of the detection devices by students, due to the COVID-19 pandemic we redesigned our program, with greater emphasis on remote operations and the development of related tools. In the present work we present the first results and findings of this pilot run.

Introduction

Involving students in cutting-edge research activities has multiple benefits, which have been extensively presented in the international literature (Walkington, 2015; Wayment & Dickson, 2008; Straker, 2016). One of the major advantages is the increase of students' self-esteem, the development of new mental and practical skills as well as the development of cooperation in the workplace. In addition, students get to know the methodology of scientific research, the connection between theoretical knowledge and practical applications, but also the limitations imposed by the experimental procedures and the scientific instruments. The involvement in research activities also gives students the chance to explore professional employment prospects and possible alternative paths that they can follow in their professional life, i.e., basic and applied research.

Unfortunately, in the Greek educational reality, no such connection has been efficiently developed and any participation of students to research activities is often limited to that of the spectator of demonstration experiments. In addition, due to the recent COVID-19 pandemic and the mobility restrictions, any connection between the high school

community and research institutes (i.e., summer schools, workshops for pupils, etc.) was reduced dramatically. Moreover, even under normal circumstances and due to the general geomorphology of Greece, a large percentage of students living in small towns, villages, and islands have sparse contact with scientific research, which is usually confined to tours at the campus of university institutions, as part of an excursion. The lack of participation of students in experimental activities is considered as one of the reasons for the low performance of Greek students in the PISA competitions, in sciences (Sofianopoulou et al., 2017; OECD, 2018).

The Physics Laboratory of the Hellenic Open University, among its other activities, has set as one of its priorities the coverage of part of this gap, long before the start of the pandemic. By designing and constructing a portable and low-cost cosmic ray telescope (μ Cosmics, pronounced microCosmics) along with the development of educational activities during summer schools, it created the building blocks of the μ Net project which aims for the active involvement of high school students and teachers to the experimental methodology of astroparticle physics and especially to cosmic ray physics. The μ Net project is expected to be in operation by the end of 2023, but very recently (June 2020) a 15-month pilot project started for the deployment of 6 educational telescopes and the development of the relevant educational and software tools. Since the remote operation of experimental devices is foreseen in the μ Net project and due to the COVID-19 restrictions that maintained the schools closed for most of the 2020-2021 school period, most of the educational activities and operations were adapted to distant learning activities and operations respectively giving us an insight of how such a hybrid (both in situ and distant experimental activities) school network is expected to operate.

The μ Net Project

Cosmic Rays

Primary cosmic rays are high energy protons and atomic nuclei that originate from astrophysical objects of Milky Way or other galaxies with energy spectrum orders of magnitude greater than the energy of terrestrial artificial accelerators (i.e. LHC at CERN). When these cosmic particles enter the earth's atmosphere they interact with the atmosphere and new secondary particles are produced. When the energy of the initial particle is high, millions of secondaries are produced forming a shower of particles travelling with the speed of light towards the earth's surface (Extensive Air Shower – EAS). If the shower energy is large enough, many particles reach the ground, spreading up to several thousands of square meters for very energetic showers (Figure 1, left). Among these particles, the muons (atmospheric muons) are the most numerous energetic charged particles arriving at sea level, with a flux of about 1 muon per square centimetre per minute.



Figure 1. Left: An artistic view of extensive air showers produced in the atmosphere. Right: The μ Cosmics detection station. The detection units (white boxes) along with the data acquisition board and the station computer (laptop).

The μ Cosmics detector

Since 2014, the HOU Physics Laboratory has installed at the university campus a distributed array of air shower detection stations, consisting of scintillator detectors and Radio Frequency (RF) antennas (Avgitas et al., 2020). Based on the experience gained with the Astroneu detection system, and utilizing the latest technology, the Physics Laboratory of HOU has recently designed and built a cosmic ray telescope for educational purposes (μ Cosmics detector). μ Cosmics (Figure 1, right) is a highly portable atmospheric air shower detector that can be operated within the classroom or school lab, has low cost and does not require high voltage or potentially hazardous power supplies. In addition, the μ Cosmics detector can be assembled by students, while its small size and light weight allows for many educational activities to be carried out in the classroom or in a school laboratory. For a detailed presentation of the μ Cosmics detector and its philosophy, refer to Tsirigotis and Leisos (2019).

The μ Net educational activities

The μ Net project aims for the active involvement of high school students in experimental procedures of Astroparticle physics and especially in Cosmic ray physics. Specifically, the project aspires for the development and long-term operation of a Greek school network of educational cosmic ray telescopes (μ Cosmics detectors) that will be installed at high school laboratories in the geographical region of Peloponnese. In addition, the project includes the development of remotely operated experimental devices and the utilization of the HOU extensive air shower array (Astroneu array), in order to provide access to any high school, independently of its geographical position. The schools that will operate in situ autonomous air shower detection systems, as well as the schools that will operate remotely the Astroneu stations and the HOU experimental setups will constitute the μ Net network, the 1st Greek school network of educational cosmic ray telescopes. There are many school networks of education cosmic ray telescopes around the globe. See for Leisos et al. (2018) and the references therein.

Distant Education in the Framework of the μ Net Project

The intended training program of μ Net is not just about the installation and operation of ready-to-go, and technically tested, detection systems. The main feature of the project is that it aims to actively involve the student community in the whole experimental process, which includes instrument construction, setup, testing of its operation, and finally data collection and analysis in order to draw conclusions as to the characteristics of cosmic rays. For that reason, educational activities have been designed (Petropoulos, Leisos, & Tsirigotis, 2020a) to introduce students to the modern experimental methodology of Astroparticle physics and, in particular, to cosmic rays physics (Table 1). These activities refer to the scientific studies for which the instrument is designed (e.g. measurement of the direction of cosmic rays), but also to the experimental procedures preceding the experiment (e.g. instrument construction, calibration and proper operation).

Table 1: Educational activities with the μ Cosmics detector, where students' tasks are described. All tasks except the 1st can also be performed remotely using experimental devices at the HOU Physics Laboratory.

1	Assembly of the μ Cosmics detector
2	Measurement of the detector response to muons
3	Synchronization of the detector units
4	Measurement of the atmospheric muon flux and coincidence studies
5	DAQ operation and online monitoring
6	Geometries studies and estimation of the angular resolution
7	Measurement of the cosmic ray angular distribution

All the educational activities that have been planned, with the exception of activity 1, can be performed remotely, so that one of the main objectives of the program is covered, that is, the participation of students from any part of Greece. However, the remote operation is foreseen using special experimental devices that are designed to support remote operation and will be installed at the HOU Physics Laboratory. For a detailed description of the educational project, refer to Petropoulos, Leisos, and Tsirigotis (2020a) and Petropoulos, Leisos, and Tsirigotis (2020b).

Pilot Run of the μ Net Project

The pilot run of the μ Net project started in June 2020 and is expected to be completed by September 2021. The original plan was to train the school teachers at the Physics Laboratory of HOU and then to deploy the detection stations at the school laboratories. There the students (under the guidance of their teachers) would accomplish the educational activities of table 1 during the whole school period. Unfortunately, the COVID-19 pandemic did not allow us to follow the original design. In order to overcome this, we adapted most of the activities to be done remotely using the μ Cosmics detectors (remote operations are foreseen in the μ Net project using special equipment), while the training of the school teachers was completely carried out also remotely.

Distant Education in the Framework of the μ Net Project



Figure 2. The workflow of trainees in the distance education program of the pilot run. Each task is supported by educational material (videos and animations) that are implemented to Moodle.

For this purpose, we developed a series of analytical, but short, videos, where the participants could study the underlying physics theory as well as the experimental procedures followed. The workflow of the trainees is sketched on Figure 2 and it was implemented to a dedicated Moodle-platform, where the trainees after watching the videos, were asked to answer comprehension questions. In case of incorrect answers, there was a rollback to the specific point in the video, where they needed to pay more attention in order to consolidate the information. The online training was performed by simultaneous self-experimentation using the experimental devices that were located at the HOU Physics Laboratory and were accessible via the https protocol (Figure 3, left). In addition, regular weekly online meetings were held through the Webex platform, where a member of the HOU Lab presented the experimental procedures, explained how to handle detectors remotely, collect data and process them (Figure 3, right).

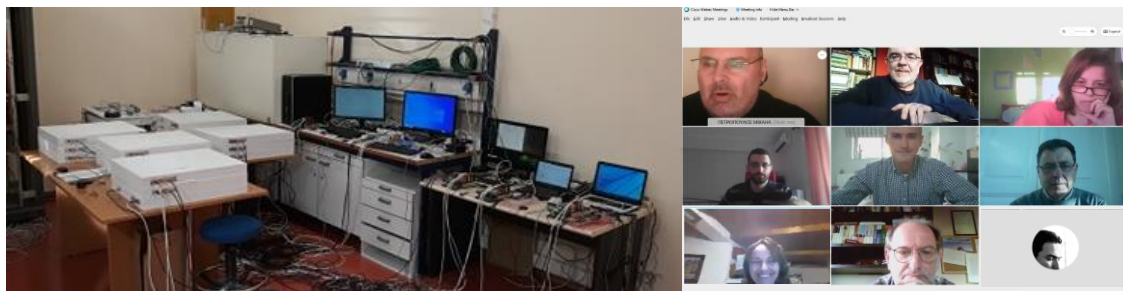


Figure 3. Left: Five μ Cosmics telescopes located in one of the venues of the HOU Physics Laboratory. The telescopes are remotely operated by the corresponding school groups. Right: A snapshot of a regular weekly online meeting with the schools' teachers.

The anticipated educational program of the pilot run will be completed by the end of June 2021. Then the telescopes will be operated in shower-detection mode where the three detection units will be arranged in an almost equilateral triangle with side length of about 6 meters. The accumulation of data will last for a month and then the data analysis will follow (end of July 2021). All these procedures are designed to be performed remotely, i.e. even if the pandemic measures are withdrawn.

Feedback – First results

At the time of the writing the distant education program is ongoing and expected to be completed by July of 2021. 6 school teachers and approximately 50 pupils participate in this pilot run. Participating teachers and students are invited to evaluate the process, to

Distant Education in the Framework of the μ Net Project

submit reflections and suggestions, so that the program is as understandable and effective as possible. From the feedback we have received so far, the main feature is the enthusiasm of both students and teachers, as they consider that it is something that goes beyond the trivial, covering a significant gap in the Greek education system, as modern physics, such as and Astronomy and Astrophysics are not part of the curriculum in Secondary Education.

Students learn easily the remote control of devices and understanding the logic of the experiment is not a problem worth mentioning. The lack of knowledge regarding the physics of the experiment is covered both by the visual material we have developed and by the exchange of questions and answers during teleconferences. Although there was a phobia initially about their capability to satisfy the requirements of the program, it was quickly overcome as we avoided mathematical formalities, which are often a deterrent to students. At the same time, and for their convenience, we simplified the process of processing the data collected by the students, automating the work in spreadsheets, since Greek students are familiar with such tools being part of their curriculum.

Table 2 presents some of the questions that teachers were asked to answer, evaluating the curriculum and students' ability to meet its requirements. One of the questions we asked the teachers is from which class do they think students can adequately respond to such a research project. 75% think that the students of the 2nd Lyceum class (Grade 11) are the most suitable for such an education, while 25% think that younger students but at least from the 3rd Gymnasium class (Grade 9) may respond in a very satisfactory level. They also consider that one of the strongest points of the program is the educational videos and animations, which students definitely prefer instead of the traditional text.

Table 2: Evaluation by teachers participating in the pilot program, for the distance learning μ Cosmics project. (1: *Not at all satisfactory*, to 5: *Particularly satisfactory*)

Question	Answers				
	1	2	3	4	5
How interesting do you think this program is?					100%
Have you gained new knowledge from your participation?				25%	75%
The supporting material available so far, how satisfactory do you think it is?				25%	75%
How interesting do you think this program might be for students?			25%		75%
Evaluate the individual material you have studied so far.				25%	75%
How comprehensible for students can be the Physics of such a program?			25%	25%	50%
How satisfactorily do you think students can meet the laboratory and digital requirements of the program?			25%	25%	50%
Do you think that distance education can work in such research programs for students?			25%		75%

In addition, teachers consider that distance education is not a particular problem for students, since they are given the opportunity to adjust their participation to their own needs. Nevertheless, 100% consider lifelong learning to be necessary and even though that distance education is a satisfactory solution, it should be complementary to lifelong learning. Above all, however, they judge that distance learning covers the students on a more personal level, covering their personal interests and concerns. This is because it is almost impossible to allocate resources for the development of such programs, which is obviously much easier for a research institute.

Conclusions

The Physics Laboratory of the Hellenic Open University, long before the pandemic began, was interested in developing techniques and methods for distance education in cutting-edge research. The main goal was the participation of students from inaccessible areas and schools that have little or not any access to research institutions and infrastructures. The μ Net project is towards this direction. It encompasses activities for high school students that can be performed by using both in situ as well as remote operated astroparticle physics devices.

A pilot run of the μ Net project started in June 2020 with a duration of 15 months in order to develop tools and methods suitable both for high school teachers and students. Due to the pandemic restriction measures, the remote experimental procedures as well as the distant education tools received the main focus of the project. The school teachers participating in the pilot run evaluated our educational approach and responded positively to the methodology we applied. Their feedback was precious during the development of the videos and animations as well as to the functionality of the data analysis software.

Approximately 50 students are currently involved in the project coming from 6 high schools of western Greece. The pilot program is expected to be completed by the end of July 2021 following the distant learning methodology even if the pandemic measures are withdrawn. The feedback we receive from this pilot run, will be used to improve the remote experimental process, as in the next two years the project will be expanded in more than 50 schools in the Peloponnese. The experience to date is particularly encouraging, as students have the opportunity to participate in cutting-edge research experiments, which are not offered at school, and to satisfy their personal interests, without having to leave their place of residence. In addition, distance education, with the logic of access to knowledge not available in the standard school curriculum, seems to work more democratically, as all stakeholders have access, regardless of where they live or their financial abilities.

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PLEIADE

Playful Environment for Inclusive leArning Design in Europe



Website: <https://pleiade-project.eu>

Runtime: 09.2020 – 08.2023

Supported / co-funded by: Erasmus+ Call 2020 – KA201 – Strategic Partnerships for school education – Cooperation for innovation and the exchange of good practices

Partners: National Research Council of Italy – Institute for Educational Technology, Genoa, Italy (coordinator); Sofia University St Kliment Ohridski, Bulgaria; OPEN LAB SRL, Florence, Italy; European Distance and e-learning Network (EDEN), London, UK; 144 Secondary School “Narodni Buditeli”, Sofia, Bulgaria; Scuola secondaria di 1° grado “Rocca Bovio Palumbo”, Trani, Italy; “S. Avgoulea-Linardatou” School, Athens, Greece; “Neapolis” Gymnasium, Limassol, Cyprus; Association for Teacher Education in Europe (ATEE), Brussels, Belgium (associated partner).

Project representative to be contacted for further info: Donatella Persico (persico@itd.cnr.it); Ferenc Tatrai (tatrai@eden-online.org); Marilina Lonigro (marilina.lonigro@gmail.com)

With sharply increasing cultural, linguistic and socio-economic diversity in Europe’s school populations, there is urgency to shift towards collaborative learning practices that embrace the inclusion of all learners. The challenge is to ensure that ALL students have optimal chances of realizing their potential as individuals and future European citizens. In this scenario, PLEIADE supports its teachers to systematically integrate inclusive practices in their teaching by helping them to design, implement and share with colleagues inclusion-aware collaborative learning activities.

PLEIADE’s support for teachers’ capacity building comes in the form of a blended (onsite + online) playful pathway of teacher training and peer collaboration for teachers working in 4 different schools, who are facing different challenges in terms of learner diversity. The pathway features advanced game-like elements that draw on physical and digital tools designed to support teacher interaction, cooperation and, ultimately, collaboration. The pathway will entail the use of a game (the I4Ts game) and of a gamified platform developed specifically for the project. In PLEIADE, this composite learning environment will be fully developed and deployed to (a) enhance teachers’ engagement in a training experience, (b) foster co-creation and sharing of inclusive activity designs, (c) support classroom enactment of those activities and (d) promote the sharing and propagation of successful inclusive practices in a teacher community.

PLEIADE engages an immediate target population of about 75 teachers at primary and secondary schools in Italy, Bulgaria, Cyprus and Greece, whose schools are consortium members. The collaborative learning activities they design and implement in their classrooms during the project are expected to benefit around 600 pupils, many of whom experience educational disadvantage due to cultural, linguistic and socio-economic diversity.

Main target groups of the project: school teachers, teacher educators, school principals and policy makers interested in fostering educational inclusion, researchers in collaborative learning, inclusive education, learning design and gamification.

PLEIADE – PLayerful Environment for Inclusive leArning Design in Europe

Significant public results:

- IO1: an innovative gamified TPD pathway dedicated to inclusive education, learning design, and collaborative learning;
- IO2: a Hybrid Game (the I4Ts Game) of tangible and digital elements that supports teachers' design of collaborative, inclusion-aware learning activities based on an innovative approach called "4Ts approach";
- IO3: a gamified digital platform providing a scaffolded context for teacher interaction regarding the deployment of PLEIADE - inspired classroom activities and the exchange of related experiences;
- IO4: a collection of innovative practices generated by the PLEIADE teacher community;
- IO5: an evaluation kit for inclusive-aware collaborative learning activities;
- IO6: an impact amplification kit.

R4C

Reflecting for Change



Website: <https://reflecting4change.eu>

Runtime: 1 NOV 2019 - 31 OCT 2021

Supported / co-funded by: Erasmus+ KA3 Support for Policy Reform – Forward Looking Co-operation Project

Partners: Ellinogermaniki Agogi, Greece (coordinator), European School Heads Association, EU, European Distance and E-learning Network (EDEN), UK, ScienceView, EU, University of Bayreuth (UBT), Germany, Institute of Educational Policy (IEP), Greece, Fondazione Idis-Città della Scienza, Italy, NUCLIO – Núcleo Interativo de Astronomia, Portugal

Project representative to be contacted for further info: Sofoklis Sotiriou (sotiriou@ea.gr), Ferenc Tátrai (tatrai@eden-online.org)

Short description of the initiative

The Reflecting for Change (R4C) project aims at proposing an advanced support framework, as well as a set of core policy recommendations, to schools seeking to introduce a type of holistic change that will ensure a meaningful uptake of sustainable innovation, with an emphasis on achieving improved learning outcomes as set by the Europe 2020 strategy.

R4C is a Forward-Looking Cooperation Project (https://eacea.ec.europa.eu/erasmus-plus/actions/key-action-3-support-for-policy-reform/erasmus-plus-key-action-3-prospective-initiatives/forward-looking-cooperation-projects_en) that promotes the use of self-reflection tools to support innovation and systemic change in education and training institutions. These projects highlight good practice in using and, in particular, following-up results from the two self-reflection tools developed by the European Commission, namely HEInnovate (<https://heinnovate.eu/en>) for higher education institutions and SELFIE for schools (https://ec.europa.eu/education/schools-go-digital_en).

In R4C approach, innovation is understood in terms of a school's pathway to digital maturity (e-maturity) and its comprehensive relationship to the use of ICT, as well as a school's pathway to openness demonstrated in its relationship with external stakeholders, in parental engagement, in fostering the well-being of its community as a whole, in its ability to combine the delivering of the curriculum with a study of local challenges, in its willingness and capacity to share its achievements with other schools and in its engagement with contemporary Responsible Research Innovation (RRI) challenges.

The consortium will organize and coordinate large scale pilots with schools to evaluate the effects of, and systematically validate the proposed approach by implementing numerous activities and exploiting at the same time the opportunities offered by major ongoing initiatives and reforms, in Greece, Portugal and Italy. The project will be implemented with a bottom up approach in 300 primary and secondary schools, in urban as well as in rural areas while the sample for the validation of the proposed approach will consist of 1,500 teachers and 15,000 students.

Main target groups of the project: primary and secondary school heads, teachers, students and educational authorities. Schools in Greece, Italy, and Portugal are involved in the large scale pilot.

R4C – Reflecting for Change

Significant public results:

- School Innovation Model (<https://reflecting4change.eu/wp-content/uploads/2021/02/D1.1-School-Innovation-Model.pdf>)
- School Profile and Analytics Framework (<https://reflecting4change.eu/wp-content/uploads/2021/02/D1.2-School-Profile-and-Analytics-Framework.pdf>)
- School Innovation Profiling Tool and the School Innovation Planning Recommender System (<https://reflecting4change.eu/wp-content/uploads/2021/02/D1.3-School-Innovation-Profiling-Tool-and-the-School-Innovation-Planning-Recommender-System.pdf>)
- International Professional Development Course (<https://esia.ea.gr/training/towards-an-open-e-mature-school/>)
- Validation Tools (<https://reflecting4change.eu/wp-content/uploads/2021/02/D4.2-Validation-Tools.pdf>)
- School Innovation Strategies
- School Innovation Roadmap
- School Innovation Academy

VIRTEACH

A Virtual Solution for a comprehensive and coordinated training for foreign language TEACHERs in Europe



VIRTEACH
A Virtual Solution for a comprehensive and coordinated training for Foreign Language Teachers in Europe

Website: <http://virteachproject.eu>

Runtime: 09.2018 – 08.2021

Supported / co-funded by: Erasmus+ Programme of the European Union

Partners: University of Burgos, Spain (project coordinator) – UC Leuven Limburg, Belgium – Collegium Balticum, Poland – Christian University of Bucharest, Romania – Lusofona University, Portugal

Project representative to be contacted for further info: Nele Kelchtermans
(nele.kelchtermans@ucll.be)

Short description of the initiative

The increasing globalisation of contemporary societies poses great challenges to the education sector. As the Eurydice (2015) report indicates, the labour mobility of the teaching and learning collective is in continuous growth due to the constant increase in opportunities for university study abroad, and a static labour market resulting from the last years of economic crisis. Displacement in Europe is particularly evident among foreign language students and teachers, who tend to move more frequently and for longer. However, there is a lack of unified formats for teacher education at a European level, with national agencies working in each country separately.

To address these shortcomings, the VIRTEACH project seeks to find a VIRtual Solution for a comprehensive and coordinated training for foreign language TEACHERs in Europe. This Erasmus+ funded project (2018-2021) has created a digital tool to improve the postgraduate certificates on Masters on Education for foreign language teachers and has provided teachers, researchers, student teachers and policy-makers with open-source tools and reports to foster convergence in the education of foreign language teachers.

Main target groups of the project: Experts, researchers, lecturers, students in the field of foreign language teacher education

Significant public results:

Interactive Toolkit: This Interactive Toolkit provides a comprehensive collection of learning materials, open education resources, methodological guidelines and examples of best practices for the construction of a foreign language teacher training model at European level. This initiative, accomplished by the participants of the VIRTEACH Erasmus+ project, hopes to be useful to lecturers, professors, teachers and researchers in the field of Higher Education. It is freely available and the VIRTEACH team encourages dissemination and implementation in educational programs.

Virtual Learning Environment: The VIRTEACH team has designed the “21st Century Foreign Language Teacher Training Course”. It is a friendly and easy-to-use online course that offers innovative approaches and resources to language teacher education. This course, embedded in a Virtual Learning Environment, is a suitable tool to monitor foreign language student teachers’ education. It is also a lifelong learning platform for experienced teachers of languages.

Interactive Digital Notepad: The Interactive Digital Notepad (IDN) is a practical proposal for the integration of technology into the Practicum of foreign language student teachers. It has been designed as a robust

VIRTEACH – A Virtual Solution for a comprehensive and coordinated training for foreign language TEACHERs in Europe

tool for mentoring and communication between student teacher, university instructor and school mentor. Thanks to this digital tool, the Practicum becomes a coherent, reflective, dynamic and enriching learning experience for all parties.

White Paper with policy recommendations for internationalisation and convergence of curricula in foreign language teacher education.

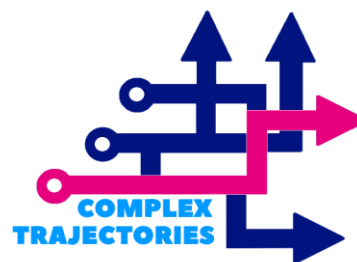
European Conference on Foreign Language Teacher Education:

As a final landmark, the VIRTEACH project team organises the Multiplier Event: I European Conference on Foreign Language Teacher Education. This 2-day conference is a meeting place and platform for researchers, teacher educators, policy makers and teachers from all over Europe. It combines inspiring keynotes, a wide variety of papers on research and practice, problems and advancements of foreign language teacher education, and active working sessions in a stimulating and friendly atmosphere. Hosted by the University of Burgos (Spain), this conference will provide a venue for the following activities:

- Presentation and discussion of the outputs of the VIRTEACH project.
- Presentations by researchers and practitioners on innovative experiences in the education of foreign language teachers.
- Discussion fora involving policy makers on convergent policy design for foreign language teacher training.
- Identification of new issues and future directions in the training of foreign language teachers in Europe.
- Practical Workshops: 21st Century Foreign Language Teacher Training Course and Interactive Digital Notepad.

Complex Trajectories

Promoting Students' Successful Trajectories in Higher Education Institutions



Website: <https://web.fe.up.pt/~complext/>

Runtime: 09.2020 – 08.2023

Supported / co-funded by: Erasmus+ – Key Activity 2 Strategic partnership

Partners: Fundació per a la Universitat Oberta de Catalunya (UOC) (Coordinator) – Spain, Universitat Autònoma de Barcelona (UAB) – Spain, Secretaria d'Universitats i Recerca (SUR) – Spain, Universitat de València (UV) – Spain, Universidade do Porto (UP) – Portugal, Universidade Aberta (UAB) – Portugal, Université de Bourgogne (UB) – France and The Open University (OU) – United Kingdom.

Project representative to be contacted for further info: Josep M. Duart (jduart@uoc.edu)

Short description of the initiative. The Complex Trajectories Project focuses on understanding the complex trajectories of students at university and supporting those who navigate them. In the practical domain, the project aims to contribute to establishing a system of regular monitoring of student trajectories in order to adjust the development of policies supporting these trajectories at different levels of the system and university institutions. At the conceptual level, the aim is to broaden the notion of what can be considered an inclusive university. While there has been a major movement to look at equity in access to university (known as widening access) the progress of students through the university also requires attention to achieving an inclusive university.

To do so, it is necessary to extend the concept success in progress through the university. Normally, the analysis of trajectories is done from a single degree program. This gives a restricted view of successful trajectory is, since it would only be the one that begins and ends the same degree program. The policies to be applied to promote such success are policies of student retention. Instead, we argue that the focus of the analysis should be the student. Students can shift, pause, combine their studies, move between different degree programs or different modalities (distance and face-to-face), maybe building a complex, but successful, trajectory.

To achieve the project objectives, the agents involved must be diverse, i.e., the agents working at the level of providing information and understanding the phenomenon, those making policy (at different levels), and those providing direct support to students. Given that the involvement of agents acting at various levels is required and, that the process of information gathering, trajectory analysis and policy adjustment in support of these trajectories needs to be updated, it seems clear that the best way to address the issue is through the networking of the agents involved.

To give maximum diffusion to the knowledge acquired and the materials produced, we will transform them into products of quick understanding (infographics, brochures) that can be disseminated through already existing websites (universities, student services, international education organisations, etc.) or in the student services offices. Moreover, the planned training of the partners of the consortium in all the areas of development of the project will allow us to set up Multiplier Events in four countries to carry out an extensive dissemination of the outputs and to advance in the objective of generating networks in each territory.

Significant public results: The project has three main parts, plus an area dedicated to the dissemination, which includes generating or consolidating a network in each territory of the consortium partners. The first part is focused on developing a methodology for analysing student trajectories transferable to other

Complex Trajectories – Promoting Students’ Successful Trajectories in Higher Education Institutions

higher education contexts. In the second part, we will carry out a collection of good practices supporting complex trajectories by exploring policies in the HEIs that are partners in the consortium and other HEIs in their nearby territories. The deeper objective is to understand the link between the different types of good practices and the results of the trajectories analysis, trying to answer the question about which measures can benefit which trajectories and in which way. In the third part, it is planned to transform the knowledge acquired from the two previous parts into training and decision-making support material. To this end, degree program evaluation indicators will be constructed on the theme of trajectories. Two MOOCs will be designed, one aiming at learning the longitudinal analysis of student trajectories, the other for advisors on measures to support complex trajectories. A handbook for advisors and other support materials will be designed.

DISK



Digital Immigrants Survival Kit

Website: <https://www.disk-project.eu/web/>

Runtime: Nov. 2019– April. 2022

Supported / co-funded by: The ERASMUS + program of European Union, DISK project 2019-1-PT01-KA204-060898

Partners: QOOL – Ossiannilsson Quality in Open Online Learning Consultancy, Sweden; UP – University of Porto, Portugal, co-ordinator; EFQBL – European Foundation for Quality in Blended Learning, Austria; Training 2000, Italy; EDRASE – Educational Activities Society, Greece

Project representative to be contacted for further info: Pedro Ferreira (pferreira@fpce.up.pt)

Short description of the initiative

The two-year Digital Immigrants Survival Kit (DISK, 2019-2022, 2019-1-PT01-KA204-060898) project aims to develop a Survival Kit to learn to overcome missing digital competencies of adults with a special focus on digital immigrants i.e., persons who are disadvantaged in society due to a lack of digital competences and to enable them to take an active role in the digital society. In this regard, the project team identified needs and competence profiles in potential participants and is constructing a set of 15 modules on a variety of topics related to daily life and digital competencies. The Survival Kit will use Flipped Learning 3.0 as a training approach and contribute to the development of an innovative self-evaluation tool: competence-based self-evaluation mandalas. Carefully designed transferability and implementation guides will support the flexible transfer of the results and outcomes to other European countries and its wide and open use, especially facilitated since DISK toolkit modules will be published as Open Educational Resources (OER). The results can be expressed to serve at the nano, micro, meso and macro levels.

The consortium consists of 5 partners, 3 adult education organizations, a university, and a specialist in course quality and Open Educational Resources with complementary skills, experience, and approaches to adult education. The process of creation of the profiles and modules, as of the different elements such as the self-evaluation mandalas, and its challenges, are relevant to reflect on how, under the current social circumstances in the European Union, one can act effectively on developing digital competencies with older adults.

Each developed module of the “Survival Kit” is documented in a short guide including the training material itself, all support materials (like trainees’ and trainers’ instructions), hints for trainers (summary of the lessons learned sessions), the ready-to-use Moodle course, the templates for the self-evaluation mandalas, and a guide of how to use the self-evaluation mandalas.

Main target groups of the project: Stakeholders involved in Adult Education, Seniors digital Competencies

Significant public results: Dissemination webpage, blogposts, Social media, Conferencies, stakeholders wbpages etc

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DISK – Digital Immigrants Survival Kit

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DiBiHo

Digitale Bildungsnachweise für Hochschulen
(Digital Credentials for Higher Education Institutions)

Website: <https://www.dibiho.de>

Runtime: 11.2020 – 12.2022

Supported by: German Federal Ministry of Education and Research, FKZ: M534800

Partners: Technical University of Munich (TUM), Germany; Hasso-Plattner-Institute (HPI), University of Potsdam, Germany; German Academic Exchange Service (DAAD), Germany

Project representative to be contacted for further info: Dr. Matthias Gottlieb, project coordinator (dibiho@tum.de)

Short description of the initiative:

Digital technologies are paving new paths of learning in higher education, which are tailored to the particular requirements of individual learners. A gradual transition from traditional classrooms to hybrid online teaching and learning formats is fundamentally changing our understanding of teaching and mobility patterns. These developments result in a need to re-examine the data associated with learners in new and old formats alike, especially with a view to how their achievements are documented. Transitioning from paper-based to digital credentials is a natural consequence of shifting education formats. While they are a necessity for online-based formats such as MOOCs, they also promise administrative efficiency, a reduction of mobility barriers, and the possibility to properly document life-long learning in all its variations.

A number of projects and initiatives have already made some strides in this area on a national, European and international level. DiBiHo is a new research project and will explore the prerequisites and technical options of an infrastructure with associated standards for interoperable digital credentials on a global scale. It therefore seeks to incorporate experiences and results from similar projects worldwide. The project will focus its development around the principle of Self-Sovereign Identity for learners to ensure transparency, interoperability and acceptance.

Project Goal: Develop a trustworthy, distributed and internationally operable infrastructure standard for issuing, storing, presenting and verifying digital academic credentials.

Actions and outputs: Core results will comprise the definition of model processes, development of Proof-Of-Concepts for several use-cases of the project partners, a specification of a reference architecture and data model, development of prototypes and a recommendation for future operator and support models.

Main target groups of the project: Higher Education Institutions, students, policy- and decision-makers

DIMELI4AC

Digital Media Literacy for Active Citizenship



Website: <http://dimeli.eu/>

Runtime: 01/11/2018– 31/07/2021

Supported / co-funded by: co-funded by the Erasmus+ project of the European Union/ 2018-1-DE03-KA201-047411

Partners: University of Hannover – Germany; Ellinogermaniki Agogi – Greece; Lifelong Learning Platform – Belgium; Antenna Ltd – Cyprus; Emphasys Center – Cyprus; CCS Digital Education – Greece

Project representative to be contacted for further info: Richard Heise (heise@idd.uni-hannover.de)

Short description of the initiative

Digital advances have brought new challenges for Europe's students and teachers. In recent years, the ability to read and interpret different types of media has become an increasingly essential skill to possess as most of the information we receive on a daily basis comes to us through a complex and interwoven system of media technologies. Social media and misinformation can be harmful, while data privacy has become a key concern in the digital society. EU citizens, but above all young students are vulnerable to cyberbullying and harassment, predatory behaviour or disturbing online content. In response to this, the DIMELI4AC project aims to support schools to establish their own DIGITAL MEDIA LITERACY ACTION PLAN in order:

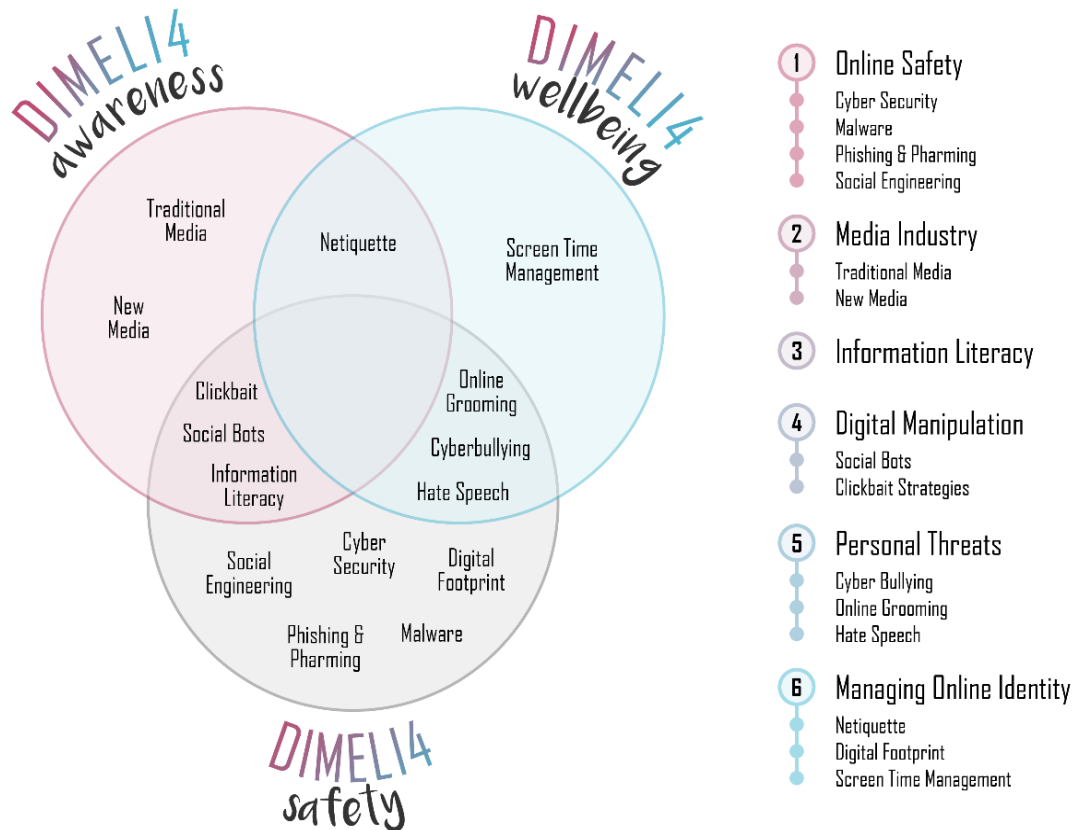
- To empower young students to become responsible, critical, global citizens for the digitalized and connected world we live in, while creating blended learning opportunities to acquire digital and media literacy skills to safeguard democracy and common values.
- To utilise the non-working time of schools in order to set up ON-LINE AND IN-HOUSE DIGITAL MEDIA LITERACY LABS and OBSERVATORIES based on SYNERGIES to be created among teachers, parents, schools, organizations, stakeholders which will endorse the CAMPAIGN and sign the MEMORANDUM OF DIMELI4AC COMMITMENT.
- To introduce the idea of an interactive ASSESSMENT TOOL in the form of a GAME based on an AVATAR (DC-MELI) where students follow various challenges in order to be AWARDED the BADGE showing a respectful, responsible and safe use of the technology based on the digital citizenship and democratic values and critical thinking.
- To strengthen the profiles of teachers and in doing so to upgrade the quality of teaching/ learning services provided in formal schooling.
- To promote whole school approaches towards dealing with cross-sectoral issues.

Furthermore, it is worth mentioning that nowadays due to the corona virus pandemic teachers redefine teaching and learning. They are facing new challenges and are struggling to learn new techno-pedagogies needed to teach online classes. They need new resources and online tools to engage students in learning. In support to the above, during the project a variety of resources and digital tools were developed for the promotion of students' digital media literacy skills which are the following:

- The DIMELI@SCHOOL Competence Framework which contains a list of specific skills that we consider essential to become a responsible digital citizen and is based in two criteria, the benchmarks and the indicators. Benchmarks refer to specific objectives that a learner should

Distant Education in the Framework of the μ Net Project

accomplish and indicators mark the level of acquisition of a specific competence. This is the diagram of the competence framework:



- The dynamic and interactive DIMELI Platform/ Portal which consists of a forum, a database with resources and materials, learning scenarios, quizzes and a glossary for the interpretation of difficult terms. (<https://dimeli.erasmusplus.website/>)
- An Assessment and Validation Tool in the form of a game with an avatar which monitors, evaluate and validate the acquisition of digital and media literacy skills.

Main target groups of the project: Teachers, Students aged 10-15 years old, Parents

Significant public results:

- A Comparative Report which offers an overview of the status quo of Digital Media Literacy in the schools of three countries: Cyprus, Germany and Greece: <http://dimeli.eu/comparative-report/>
- The DIMELI @SCHOOL Competence framework: <http://dimeli.eu/competence-framework/>
- The DIMELI@SCHOOL Learning pack: <http://dimeli.eu/learning-pack/>
- The DIMELI Avatar Game: <http://dimeli.eu/platform-and-avatar-game/>
- The DIMELI Platform: <https://dimeli.erasmusplus.website/>
- The A-Z DIMELI Implementation pack: <http://dimeli.eu/a-zpack/>
- The DIMELI@SCHOOL Digital Action Plan: <http://dimeli.eu/action-plan/>