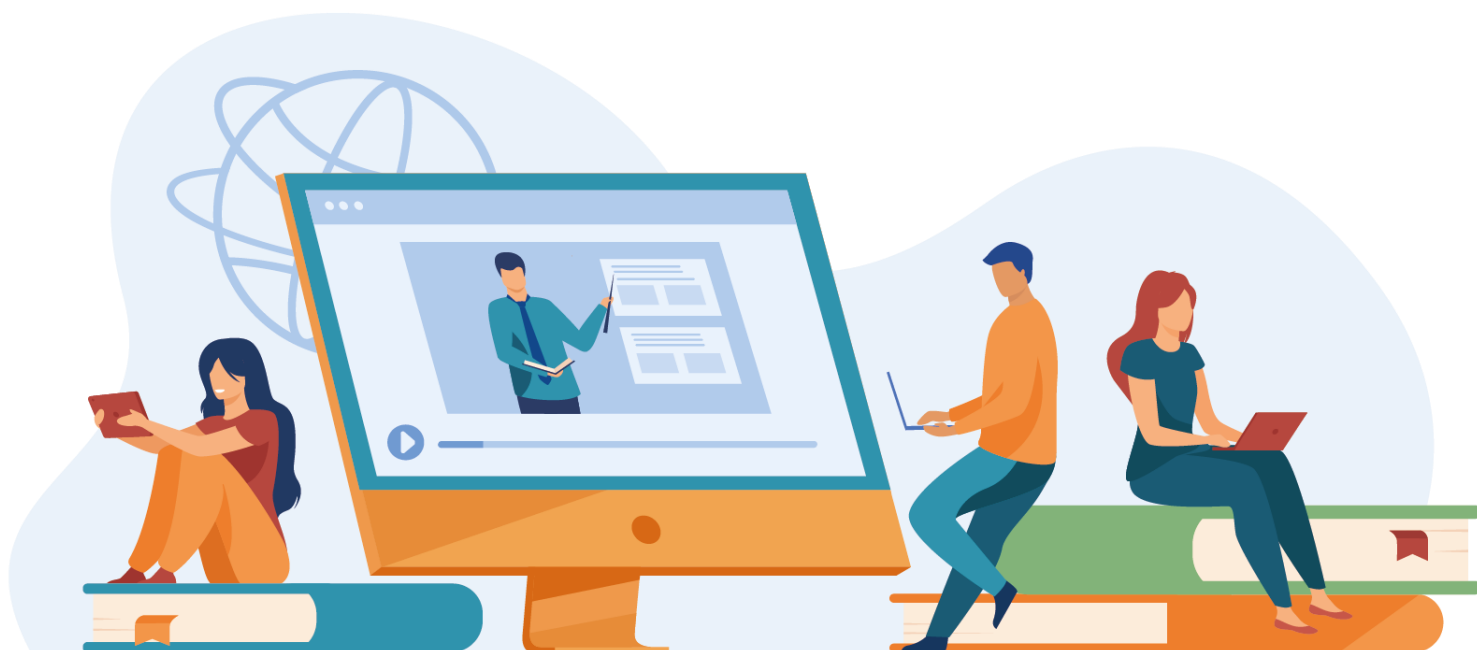


# IO1: Toolkit for integrating eLearning in Higher Education



# Contents

|                                                                                         |           |
|-----------------------------------------------------------------------------------------|-----------|
| <b>Contents .....</b>                                                                   | <b>2</b>  |
| <b>Consortium.....</b>                                                                  | <b>1</b>  |
| <b>Project Information .....</b>                                                        | <b>4</b>  |
| <b>Introduction to the project and Toolkit .....</b>                                    | <b>5</b>  |
| <b>Section 1: Strategies, guidelines, and tips on integrating eLearning in HE .....</b> | <b>7</b>  |
| 1.1. Strategic actions for distance learning.....                                       | 8         |
| 1.2. Methodology of designing and delivering online learning experiences .              | 13        |
| <b>Section 2: eLearning readiness checklist .....</b>                                   | <b>30</b> |
| 2.1. Overview.....                                                                      | 30        |
| 2.2 Content areas of eLearning readiness checklist .....                                | 32        |
| Area A: Leadership .....                                                                | 33        |
| Area B: Collaboration and Networking.....                                               | 35        |
| Area C: Infrastructure and Equipment .....                                              | 37        |
| Area D: Continuing Professional Development (CPD) [1].....                              | 40        |
| Area D: Continuing Professional Development (CPD) [2].....                              | 41        |
| Area E: Teaching and Learning: Support and Resources .....                              | 44        |
| Area F: Teaching and Learning: Implementation .....                                     | 46        |
| Area G: Online assessment practices.....                                                | 48        |
| Area H: Learner Digital Competence.....                                                 | 50        |
| <b>Section 3: Best practices.....</b>                                                   | <b>52</b> |
| Category 1: MOOCs/Training programmes.....                                              | 54        |
| Best practice 1: Learn2Analyze                                                          | 55        |
| Best Practice 2: OpenupEd                                                               | 57        |
| Best Practice 3: Open Virtual Mobility                                                  | 59        |

|                                                                                            |            |
|--------------------------------------------------------------------------------------------|------------|
| Best Practice 4: EduHack                                                                   | 63         |
| Best Practice 5: Challenge based learning programme                                        | 65         |
| Best Practice 6: OERu                                                                      | 69         |
| Best Practice 7: MOOC-“How to Create an Online Course”                                     | 71         |
| Best Practice 8: NOVAMOOC                                                                  | 73         |
| Best Practice 9: UniCampus                                                                 | 75         |
| Best Practice 10: Microsoft Educator Center                                                | 77         |
| <b>Category 2: Digital &amp; Online tools/software.....</b>                                | <b>80</b>  |
| Best Practice 1: Virtual learning environment Moodle                                       | 81         |
| Best Practice 2: Communication platform Microsoft Teams                                    | 84         |
| Best Practice 3: Video conferencing platform ZOOM                                          | 87         |
| Best practice 4: Kahoot! game-based software                                               | 89         |
| Best Practice 5: H5P                                                                       | 91         |
| Best Practice 6: Livresq                                                                   | 93         |
| Best Practice 7: OBS (Open Broadcaster Software) with the Virtual Cam plugin               | 94         |
| Best Practice 8: Mentimeter                                                                | 97         |
| Best Practice 9: Embed 3D Models into Moodle (Wavefront Renderer)                          | 100        |
| Best Practice 10: VSMA Dashboard                                                           | 103        |
| Best Practice 11: Learning Designer, a tool for didactic design and analysis of e-learning | 107        |
| Best Practice 12: The Digital Competence Wheel                                             | 110        |
| <b>Category 3: Open Educational Resources [OERs] .....</b>                                 | <b>112</b> |
| Best Practice 1: Virtual Labs by MERLOT & SkillsCommons                                    | 113        |
| Best Practice 2: Europeana                                                                 | 115        |
| <b>Category 4: Guidelines for teaching, learning, and assessment.....</b>                  | <b>118</b> |
| Best Practice 1: onTrain                                                                   | 119        |
| Best Practice 2: Assessing with ePortfolios to encourage independent learning              | 121        |
| Best Practice 3: MIELES                                                                    | 125        |
| Best Practice 4: RALDE (Re-thinking active learning for distance education)                | 128        |

**Best Practice 5: Integrated Learning Design Environment 2 - ILDE2** 131

**Best Practice 6: DIGIT' – 'Boost Competences for a responsible use of online identity'** 133

**References.....136**

# Consortium



**Partner 1 (Coordinator): UNIVERSITATEA DIN PITESTI - ROMANIA**



UNIVERSITATEA DIN PITEȘTI

**Partner 2: UNIVERSITY OF NICOSIA – CYPRUS**



Co-funded by the  
Erasmus+ Programme  
of the European Union



The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.  
Project Number: 2020-1-RO01-KA226-HE-095434

**Partner 3: VILNIUS UNIVERSITY- LITHUANIA**



**Partner 4: CARDET -CYPRUS**



**Partner 5: DIETHNES PANEPISTIMIO ELLADOS – INTERNATIONAL HELLENIC UNIVERSITY – GREECE**



**Partner 6: OBREAL – SPAIN**



**Partner 7: WEBIN -SERBIA**





## Project Information



|                                                           |                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Project Title</b>                                      | A practical toolkit for integrating relearning in Higher Education Curricula                                                                                                                                                                                                                               |
| <b>Project acronym</b>                                    | Online HE                                                                                                                                                                                                                                                                                                  |
| <b>Project number</b>                                     | 2020-1-RO01-KA226-HE-095434                                                                                                                                                                                                                                                                                |
| <b>Beneficiary organisation<br/>(Project Coordinator)</b> | P1: Universitatea din Pitesti, RO/ Romania                                                                                                                                                                                                                                                                 |
| <b>Project partners</b>                                   | <ul style="list-style-type: none"> <li>• P2: University of Nicosia, CY/ Cyprus</li> <li>• P3: Vilnius University, LT/ Lithuania</li> <li>• P4: CARDET, CY/ Cyprus</li> <li>• P5: international Hellenic University, GR/Greece</li> <li>• P6: OBREAL, ES/ Spain</li> <li>• P7: WEBIN, RS/ Serbia</li> </ul> |

# Introduction to the project and Toolkit

Over the last years, the need to improve the quality of Higher Education (HE) programmes and reach out to a diverse population of learners, regardless of any physical or time barriers, strengthened the adoption of digital technologies (OECD, 2019; EUA, 2019). In this context, the COVID-19 pandemic accelerated the adaptation of distance learning across the globe. Educational institutions were forced to transition into an emergency remote teaching period overnight. In most cases, there were no specific measures in place to ensure the quality of the online teaching to be delivered. Based on recent research, it is evident that university faculty are not properly prepared to develop and teach effective online courses (EUA, 2020; Vrasidas et al. 2020). To respond to this need, a consortium of seven partners from six EU countries have come together to implement the project “A practical toolkit for integrating eLearning in Higher Education Curricula (ONLINEHE)”. The project aims to build the capacity of HE teaching staff, academics, and learning designers in integrating eLearning into their educational programmes. Through specific deliverables and actions, it will raise awareness on the need and value of adopting quality eLearning, promoting a cooperation among all stakeholders involved in HE, including policy makers. The duration for the completion of the project is 24 months (01/05/2021- 30/04/2023) and throughout its lifecycle the following will be produced:

- **IO1: Toolkit for integrating eLearning in Higher Education.** The aim of this output is to develop a toolkit which will support HEIs and instructors to adopt a strategy when designing, developing, and implementing effective eLearning courses. The IO1 will consist of resources, research, pedagogical material, case studies, practical tips, and a collection of OERs activities that can be adapted and adopted to learn how to teach online in Higher Education.
- **IO2: Training Course.** The aim of the output is to offer training to a group of HE staff, researchers, practitioners, adult educators, learning designers, and university support staff. It aims to support a HE professionals to understand all basic elements needed to be able to effectively design, develop and implement innovative and interactive eLearning courses to university students and adults.
- **IO3: eLearning platform and MOOC.** This is one of the first MOOCs that will have a clear focus on supporting HEIs’ target groups to improve and modernize their curricula and integrate innovative technology tools for the design and delivery of courses. Therefore, the MOOC will address the significant issues and topics of integrating eLearning in HE, being fully aligned with EU policies and HE needs. It will

include hands-on online activities to empower academics to integrate eLearning in their teaching practices.

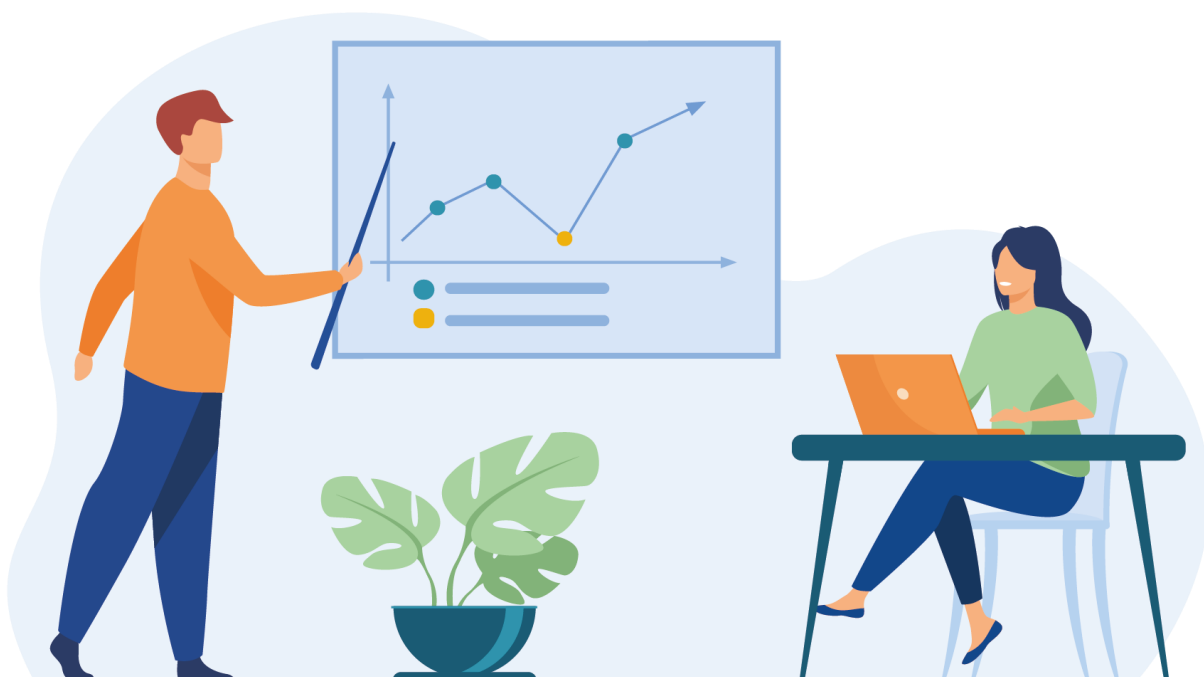
- **IO4: Policy and practice guidelines for HE institutions.** The main objective of this output is to provide concrete policy recommendations for university leadership teams, decision makers, and key policymakers at national policy levels of government and governance in the EU regarding the implementation of eLearning. Through this output, the integration of online teaching and learning in HE will be promoted.

Since, the success of distance learning programmes depends heavily on effective strategic planning, the partnership has produced a Toolkit with the ultimate goal of supporting Higher Education Institutions (HEIs) to deliver successful online learning programmes. To achieve this, the consortium of the project has gathered relevant material through a systematic review of the national and European literature, in the field of distance and remote teaching in HE and online surveys conducted in each partner country. The results are synthesised and presented practically in three (3) sections:

- **Section 1:** A detailed outline of strategies, guidelines, tips, and a concrete methodology that can be followed when teaching online, from the design to the actual delivery of the courses.
- **Section 2:** A checklist for HEIs to measure their readiness in integrating distance learning.
- **Section 3:** 30 best practices which are tools/platforms, initiatives, projects, and resources in the field of distance education.

The content of the Toolkit will be useful to higher education instructors, leaders, eLearning designers, developers, researchers, support staff, and students to adopt a strategy when teaching and learning online.

## Section 1: Strategies, guidelines, and tips on integrating eLearning in HE



Based on the desk and field research conducted in each partner country, specific evidence-based practices have emerged as actions that can be followed to effectively design and implement online learning programmes. We present these findings into two sections: the first pinpoints some foundational actions that will facilitate the integration of eLearning and the second outlines a learning design methodology.

## 1.1. Strategic actions for distance learning

Before designing an online course/learning programme, it is recommended that HEIs have an overall mission with specific goals they want to achieve. This way all the actions taken will be aligned to the direction toward which the distance learning programmes are going. Firstly, an established **coordination team** consisting of leaders, eLearning experts, faculty, researchers, and support staff will deal with administrative issues on an institutional level. The responsibilities for each participant of the online education system should be defined. Through collaboration, this team will be responsible for the preparation, implementation, progress review, and overall evaluation of distance learning. It is also worth recruiting instructional/learning designers as integral members of the staff. A strong collaboration between an academic/ instructor and an instructional/learning designer is the basis for the creation of an effective online learning environment since the former is an expert of the subject matter and the latter an expert of design theories and user experience practices. It shouldn't be a prerequisite that academics have the knowledge or skills to design a usable, functional, and attractive environment, in terms of presentation and structure. Their time is also limited due to their major responsibilities of handling an online classroom and supporting learners. Therefore, when instructional designers, developers, and instructors cooperate, the best possible meaningful experience is provided to learners, tackling technical and pedagogical issues. In addition, the institutional teams can also coordinate online activities, provide technical support, and create guidelines for the use of digital platforms and tools in education. Specific staff could also be an immediate contact point for students, ensuring their obstacles are tackled and their voices are heard. Along with that, an established **collaboration with external stakeholders** such as other universities, (research) organisations, and business, promotes the exchange of best practice ideas, so that we can follow the state-of-the-art. Having signed partnerships with local and/or international providers (e.g., Google, Microsoft), national television channels, provides support for moving courses online.

We also need to consider the **quality assurance measures and plans**. An internal quality assurance procedure needs to be aligned with national and international regulations that will be both a guide and an evaluation tool for the effectiveness of teaching and learning (Eteokleous & Neophytou, 2019; Koutselini, 2020). For instance, the European Standards and Guidelines (ESG) can be used during the implementation of an action plan for successful eLearning in Higher Education. There are distinct characteristics of quality online courses. First, a purposefully developed curriculum focuses on improving the learning outcomes. An alignment of the objectives, the learning activities, and the assessment is of utmost importance. For this reason, we should exploit the capabilities of the Virtual Learning

Environments (VLE), employing strategies that enhance interactivity, to achieve the pedagogical purposes set. This interactivity with the learning content and, generally, the platform provokes experimentation in the learning environment. It can be the basis for self-regulated learning, driven by teachers' continuous presence and reciprocal communication. Moreover, strategic planning involves catering to students' individual needs while enhancing metacognition through self-evaluation and reflection. To succeed, a strong pedagogical knowledge is required. This implies the application of differentiated instruction, enhanced interaction among all those involved (e.g., coordinator, staff, students), the flexibility of learning paths, monitoring, and assessment techniques as well as the development of personnel's skills. Finally, a distinguished program can be assessed through the statistics of enrollment, the dropout rates, the alignment of the academic outcomes to the corresponding levels of the European Qualification Framework, and the profile of the graduates.

An **ongoing evaluation** is complementary to the implementation of any programmes. It is important that monitoring and evaluation techniques are integrated at all levels: e.g., assessing specific activities, courses and whole learning programmes, in terms of the technology, instruction, communication, etc. Evaluation should be multilayered, done internally and externally through official regulatory bodies. Internally, an evaluation process collects data about whether specific criteria for the design, structure, content, and actual delivery of the courses/programmes, via a Learning Management System (LMS), are addressed. We can set the criteria based on national/international guidelines. This way, specific reports can be prepared to identify the degree of deviation from these parameters. To complement this type of evaluation, learners should also have opportunities to express their thoughts, ideas, and concerns. A common student-evaluation practice involves the collection of data through anonymous questionnaires, at the end of an academic course or the usage of the learning analytics in the LMS (e.g., participation in the platform, the activities, and assignments, feedback, use of tools and materials, etc.). This helps to improve the infrastructure and the processes, the teaching methods, the resources, the environment, and the educational content, to achieve proper integration of Information and Communication Technologies.

Since technology is the backbone of online and distance learning, we should consider the infrastructure that becomes available. The infrastructure, including equipment, software/hardware, devices, needs to be **reliable and adequate**. We need to ensure that digital access is granted to all participants. Since not all students possess such equipment, stable Internet connection, devices, and tools should be available on-the-spot, at the University premises. For this reason, specific funds should be allocated to the above. In the

case of HEIs, Moodle LMS is widely used in partner countries and across the EU. The open-source software is adapted according to the needs of the institution in order to organise study programs based on the curricula, training and learning activities, to facilitate communication, dialogues, reflection, evaluation processes, and final examinations. Using Moodle, like other similar LMS, the lecturers can easily update, adapt and develop the educational content, insert new, theory-supporting documents, exercises, tutorials, links, create questionnaires and assignments to be submitted by students (Carapeto & Barros, 2019, Brita-Paja et al., 2019). In addition, modules or specific software tools can be integrated to Moodle. The development department of the university can be responsible for upgrading and adapting the open-source software according to the users' needs. Other popular collaborative educational platforms designed by Microsoft and Google can also be integrated. Through these, virtual classes, video conferencing, presentation and testing are all possible. The LMS along with other administrative/communication tools (e.g., e-library, student portal, e-mail, website) resemble the physical campus which, in this case, is taken into the virtual world.

Another emerging area that can aid the integration of effective online learning is **big data**. During an online learning experience, a digital footprint is easily visible due to the technologically supported environments. Participants' activity and interactions are available through the digital tools implemented which provide teachers and learning designers with a vast amount of information regarding the formers' learning progress (Mothukuri, 2017). Specifically, we can observe students' engagement, interaction, and performance in the VLE. Such information can be provided by selected Learning Analytics Dashboards in a Moodle ecosystem that aim at optimizing e-learning (Gkontzis et al. 2017). By collecting and analyzing these data properly, education stakeholders can take actions and follow an effective approach (Klašnja-Milićević, Ivanović, & Stantić, 2020). This procedure of capturing relevant information refers to the concept of Learning Analytics. The data reporting provides us with concrete evidence to assess, evaluate, and review the whole process (from administration to teaching) and will be a valuable guide during the re-evaluation process (e.g., in redesigning a course and curricula). Knowing what students need can promote the development and creation of student-centered activities that strengthen students' engagement, through various teaching approaches. To use learning analytics, it is important that **data protection systems are in place and communicated** to all parties. Šidlauskas & Limba (2019) highlight the importance of General Data Protection Regulation (GDPR), which must be respected in all European Union countries. Authors provide the GDPR implementation steps in HEIs. The GDPR is one of the reasons why tools and environments used for learning and teaching are carefully chosen. A common practice indicates that the course material is available to

students based on their university credentials (Pedrotti & Nistor, 2019), unless it is an openly accessible course that follows the principles.

To ensure that all the participants have the skills required to teach or online, hands-on **training opportunities** need to be provided. Training should cover both technical and pedagogical aspects, so that teachers and learners can learn how to use technology to teach and learn accordingly. On the one hand, learners should be trained on how to use technology to solve problems, create, and share content responsibly. Since they operate in an academic environment, they need to learn how to use digital repositories, searching articles through electronic databases (e.g., University's e-Library) and citing them accordingly. On the other hand, instructors' training should focus on the development of their digital and pedagogical skills. This means that continuous professional development opportunities are provided by the University in various forms (e.g., webinars), to cover all levels of competence (beginner, intermediate, advanced), teaching new or refreshing old skills and concepts: from learning how to use the digital technologies and tools to learning how to adapt the curricula to online teaching, design learning content, assess and evaluate the progress and expected results for their and students' activity. Other important skills that can be developed through training relate to instructors' skills for management of large online audiences/classes as well as stressful situations (e.g., online testing). Teachers' continuous professional development can include indirect training in the form of online communities of practice to drive changes in the field (Hadjisoteriou, Karousiou, & Angelides, 2018). Professional development enables teachers to develop their skills for innovative teaching. This is important since distance learning should be learner-centered and dialogic, based on continuous interaction and communication (Gravani, 2020; Koutselini, 2020; Papaneophytou, Stavride, & Nicolaou, 2020).

Other than having opportunities for training and professional/personal development, **technical and emotional support** from the right team of experts, needs to be easily accessed by all participants any time. It is recommended that we cater to students' emotions and well-being during online learning. Findings from a recent study show that university students who balance studies with a full-time job and those who were not fully adapted to a distance learning experience tend to present higher levels of anxiety (Demetriou, Hadjicharalambous, & Keramioti, 2021). Also, the more time they spend learning online, the more stressed they may feel. Even though the findings derive from research implemented in a time of crisis, specifically the emergency remote teaching period, which usually involved unplanned delivery of online learning, they raise specific concerns. They reveal that distance education requires addressing students' psychological state through guidance, reduction of

overload, and prevention of negative beliefs, to sustain and improve their academic performance.



## 1.2. Methodology of designing and delivering online learning experiences

Having analysed some foundational practices that will facilitate the adoption of eLearning, this section includes a detailed methodology on the design and implementation of online learning. Learning/instructional design is a systematic procedure during which the instructor, through self-reflection, selects the best strategies and methods that will support the achievement of the specific learning outcomes that have been set from the very beginning (Smith & Ragan, 2005). Specifically, s/he defines the learning content, the learning activities, the resources, and the evaluation methods that will all be aligned with each other and, ultimately, with the learning objectives (Merill, 2002).

There are various models and frameworks that can be followed for the design of an online learning environment. One of the most common instructional design models is the “Dick and Carey” model, proposed by Walter Dick of Florida State University and Lou and James Carey of the University of South Florida. The model is called a Systems Approach Model and reflects the whole design procedure in nine steps that, directly or indirectly, influence each other. The steps described are found in other instructional design models such as the ADDIE, one of the most widely used instructional design frameworks and one on which the “Dick and Carey” model is based (Gustafson & Branch, 2002). Therefore, to benefit from both of these models, we merge them, and present the steps from the “Dick and Carey” model along with the Analysis, Design, Development, Implementation, and Evaluation phases of ADDIE to which the steps correspond (Gagne, Wager, Gola, & Keller, 2005). We present these steps in detail below, enhancing them with principles of online learning, along with remarks and tips that emerged from our desk and field research, as a complete methodology that will assist you when designing online courses/learning programmes. Even though the guidelines are focused on the design, best practices that are crucial to be followed during the actual delivery of the course (what an instructor should do while the course is running) are also included. We have inserted them in this methodology, because we strongly believe that they are important action points to be well-considered in advance, during the design process.

### Step 1. Conduct needs assessment

To identify and define goal(s), the first step involves the identification of what the learners should be able to do upon completion of the instruction. To identify the instructional goal, we can conduct a needs assessment, analyse previous results from our experience with the students, or identify the requirements needed for a specific programme.

## Step 2: Conduct instructional analysis

The next step involves analysing the goals, to define which skills and knowledge should be included in the instruction for the achievement of these goals. It is also required to identify the skills, knowledge, and attitude that learners should possess before the new instruction begins, to smoothly engage with the learning procedure.

## Step 3: Analyse the learners and the context

Along with the analysis of the goal, we have to analyse the learners themselves. This is the foundation for the personalised instruction that has been identified as a crucial method of modern curricula. By analysing learners' current skills, preferences, and attitudes, the instruction could be aligned with their own individual characteristics. To achieve this, we can conduct a pre-assessment (diagnostics), distribute questionnaires, and hold (online) discussions with students. It is also crucial to identify and address students' distinct characteristics such as their self-regulation skills, their attitudes toward distance learning that influence the level of satisfaction along with their overall emotional state and well-being (Demetriou, Hadjicharalambous, & Keramioti, 2021; Sereti & Giosos, 2018; Souleles, Laghos, & Sava, 2021).

However, people are not independent of the context where they work. Therefore, we should analyse the exact environment in which learners will practice and use the skills. In our case, they will work in an online context. On the one hand, e-learning platforms offer many advantages to learners such as control over the content and the time spent learning. Thus, the process can be adapted according to the learners' needs and the objectives of learning. On the other hand, we need to tackle obstacles that derive from potentially decreased motivation and self-regulation in students, instructors' delayed feedback or help, since they might not be available at the time students need assistance while learning, possible feelings of isolation due to lack of physical presence of classmates over a long period. Along with that, it is also important to define the unique characteristics of an online environment. In an online setting, the interaction among the participants varies. There is not a linear communication, but each one can respond any time while living in various parts of the world. Therefore, there are multiple asynchronous dialogues (e.g. in forums), with short or long interruptions (from some minutes to days), which are being developed at varied speed. The more experienced users are usually those that initiate and lead the dialogue, offering relevant feedback while there are multiple representations of meaning through audiovisual material. One of the most important tools that works as the main online learning environment is the LMS. It is a complete, highly flexible, standards-based e-learning system that provides a fully customizable and scalable online learning and training environment,

depending on the participants' needs. Among the most common ones we find Moodle, Schoology, Atutor, Chamilo, and Canvas.

Apart from analysing the online setting of the instruction, where learners will practise the desired skills, we need to analyse the environment where they will actually use and apply the acquired knowledge. That environment is everyday and/or professional life. Therefore, the online setting will have to resemble that of real life. This is why a term called “authentic learning” comes into the spotlight. Authentic learning is based on the principles of (socio)constructivist approaches, situated learning, and communities of practice. According to Herington (2006), an authentic learning environment:

- is relevant to the real world
- includes ill-defined problem-based learning activities: the education problem (which students will solve to acquire skills) is multifaceted, requiring a combination of skills to be solved
- requires continuous research (sustained investigation) and is not solved on the spot
- requires collaboration among the members of the learning community
- is interdisciplinary
- requires a complete solution but it is open to multiple interpretations
- includes multiple representations of knowledge

These principles can be followed later on, during the development of the activities to create authentic online learning environments.

#### Step 4: Setting the performance outcomes

Afterwards, we can define the specific learning outcomes. These are presented in the form of statements that indicate what the learners should be able to do, after the instruction is completed. Since these objectives will dictate the whole instruction, it is important they include the skills learners should learn, the conditions under which the skills must be performed, and the criteria that show whether the performance is considered successful. A widely known procedure of writing adequate learning outcomes is called the “A.B.C.D. method” (Heinich, Molenda, Russell, & Smaldino 1996):

- **Audience:** who the learners are (who should exhibit a skill/knowledge/attitude?).
- **Behaviour:** which task/behaviour the learners should be able to do. To choose effective verbs that can be measured, we can use Bloom's revised taxonomy. Based on this, the objectives are classified into six (6) categories, that reflect the cognitive process with which students are engaged: from lower-order to higher-order thinking skills: (1) remembering, (2) understanding, (3) applying, (4) analysing, (5) evaluating,

(6) creating (Krathwohl, 2002). Based on which skills we want to cultivate, we can choose action-based verbs (see examples [here](#)) that can be spotted, measured, and assessed.

- **Conditions:** under which conditions the learners should exhibit the behaviour (e.g., what kind of support tools, references, they can or cannot use)
- **Degree:** how well the learners should exhibit the behaviours (e.g., in terms of speed, accuracy, quality, etc.)

Important competences that we can develop are students' ability to search for, process and analyse information, ability to apply acquired knowledge, ability to use language to communicate successfully, ability to create learning products in diverse formats, ability to apply knowledge in real or simulated scenarios (Guerrero-Roldán & Noguera, 2018).

The steps described above fall into the **Analysis phase of the ADDIE model**. Based on the ADDIE model, we start by conducting an analysis and definition of the following:

1. **Instructional goals:** What is the goal of the training/learning? This refers to the overall goal/mission of our instruction, the gap that instruction is trying to bridge and the problem it is trying to solve (e.g., an instruction that will develop students' basic research skills)
2. **Instructional analysis:** What are the steps necessary to achieve the instructional goal? We identify common methods being used in the specific subject; the existing instructional strategies mainly employed. This includes determining the method of delivery that usually fits the subject (e.g., completely online or blended, self-paced etc.), the learning environment that needs to be created, and any existing limitations/constraints.
3. **Learner analysis:** Who is the audience and their characteristics? This refers to students' prior knowledge, skills, preferences, attitudes. We identify what students already know, believe, and expect, regarding the specific subject, through interviews, entry examinations, or analysis of their performance in previous, related courses. We could also consider common expectations/characteristics of adult students based on research found in the literature.
4. **Learning objectives:** What should learners be able to do after the instruction is finished? This refers to defining the specific skills, knowledge, attitude they should possess and/or demonstrate. The following sentence is helpful for the formation of the objectives:

"By the time a student finishes this course, s/he should be able to..." which is completed by adding specific verbs that define student performance.

For instance: “By the time a student finishes this course, s/he should be able to conduct an effective literature review, by accessing the university electronic databases”.

### Step 5: Develop the assessment methods and criteria

To identify whether the objectives set have been met, we have to develop assessment instruments that measure the degree of achievement. Therefore, the assessment should be aligned with the learning objectives, asking the learners to showcase and perform the expected behaviour both during the instruction (ongoing/formative assessment) and at the end of the instruction (summative assessment) to provide space for improvement. The purpose of grades and feedback in online assessment activities is to inform students about their performance level and the degree of achievement of concrete competences. Among the online assessment practices used, the most common ones are traditional exams with proctoring tools to ensure transparency, oral examinations, or take-home exams (Papaneophytou, Stavride, & Nicolaou, 2020). More authentic practices are also explored such as online collaborative assignments (Demosthenous, Panaoura, & Eteokleous, 2020), digital portfolios, role plays and simulations.

In collaborative assessment, there are some obstacles observed such as students’ potential lack of familiarity with the online platform and the relevant tools, their hesitance working collaboratively remotely, and their fear of injustice regarding the way they would be assessed. For this reason, instructors’ role is to eliminate such obstacles by establishing an online community of learners based on effective communication skills to resolve conflicts. Additionally, instructors should provide ongoing support while they are also assessing each student individually. For the latter, digital tools such as the wiki can provide information about each student’s individual work.

Lastly, to address negative feelings, it is important to provide constant feedback, model the expected results (e.g., let them know the requirements, the assessment criteria) and allow students to raise any concerns they have. The provision of online feedback is constantly promoted as a best practice in the literature. On the one hand, the instructor should be present and ensure that the feedback is useful, accessible to all, prompts self-reflection, and motivates learners to increase their self-reliance (Savvidou, 2018). It would also be useful to offer opportunities for peer-to-peer feedback. On the other hand, the comments should not be critical, ambiguous, and inconsistent (Savvidou, 2018). However, instructors’ workload and the size of online classes may negatively affect the quality and quantity of feedback.

Similarly, learners' cultural and educational experiences influence the perceptions of the feedback given to them. By considering the above parameters, all instructors can reflect on the feedback practices they follow throughout a course for further improvement.

### Step 6: Develop an instructional strategy

Having taken the previous steps, we can identify the strategy that we will employ to achieve the objectives. The strategy includes the selection of all activities that are aligned with each other:

- warm-up/pre-instructional activities
- presentation of the learning content
- activities for practice
- specific assessment, feedback, and reflection methods

To build a strategy, we have to consider the existing learning theories. Modern theories shift the attention to the learner, his/her interests (interest-based learning) and the social aspect of learning (socio-constructivism, social learning, communities of learning). They direct toward cultivating learners' higher order thinking skills, such as creativity, research, analysis, synthesis, evaluation, and production. Based on these, the presentation, practice, and assessment can be conducted through brainstorming exercises, case studies, simulations, game-based learning (Troussas, Krouska & Sgouropoulou, 2020), discussions, messages, wikis, (micro)blogging, teleconferencing, virtual scenes, quizzes, interactive presentations, social networking, webquests, digital escape rooms, and many more. These activities can be conducted via a synchronous (e.g., a live, web-based session) or an asynchronous mode (e.g. via a platform/LMS). In an online environment learners interact with each other, with the instructors, with the content, the interface, and the technology. All these types of interactions are important and need to be constantly enhanced through multiple ways (e.g., by using interactive tools and content, facilitating and promoting dialogues among all members). Additionally, it is important to incorporate activities dedicated to the development of students' digital skills. A digitally competent person actually uses technology to solve problems, communicate, create while behaving safely and responsibly in the digital world. To achieve this, we can consult the [DigComp framework](#) developed by the European Commission, a tool aiming to build citizens' digital competence. Lastly, depending on which of these practices we choose to follow, we will be able to select or produce materials for the interactive instruction.

At this point, we outline the Community of Inquiry (CoI) framework proposed by Garrison, Anderson and Archer (2001) which targets the online context. The framework can be used as a guide when we develop the instructional strategy for the online learning experiences. It

suggests that to create meaningful experiences based on a socio constructivist approach, we should consider the enhancement of the teachers' online presence. Presence is defined as the act of "being" online: for instance, share ideas, guide, facilitate, organise, manage (Garrison, Anderson, & Archer, 2001). As a concept, presence consists of three dimensions: social, cognitive, and teaching aspects. The more "present" the teacher is, the more "present" the students are, to effectively learn. To enhance these aspects, the researchers propose specific guidelines which we elaborate, based on our research, and present below:

- A. **Social presence** is "the ability of participants [...] to project themselves socially and emotionally, as "real" people (i.e., their full personality), through the medium of communication being used" (Garrison, Anderson, & Archer, 2001, p. 94). To enhance social presence and promote the establishment of an online community of learning as an instructor, the following tips are provided:
- establish a common ground with rules to which all participants of the online community should oblige (e.g., have a learning contract)
  - initiate discussions through forums, from the very beginning till the end of the instruction (e.g., introductory forums where students present personal information)
  - utilise social networks (Zachos, Paraskevopoulou-Kollia & Anagnostopoulos, 2018)
  - ask learners to enrich their profile page that exists in most LMS
  - ask learners to keep their web camera on during synchronous sessions is considered a way of building mutual trust, heightening participation to avoid non affective interaction between students and the lecturer (Molea & Năstasă, 2020).
  - make a requirement that students connect with/log into the online learning platform various days through a specific time period. For instance, at least 4 different days per week.
  - get to know students and use their names when you address them
  - be present throughout the course by sharing information about yourself, so that students get to know you (e.g., hobbies, work experience, etc.).
  - create "cyber-cafe" forums where students can discuss anything which is not directly related to the topics of the course/material
  - use chat rooms where students can discuss with each other simultaneously/ synchronously
  - incorporate humorous content when possible
  - add personalised guidance such as video/audio instructions if possible
  - make frequent announcements
  - promote collaboration, open discussion, free expression among students (e.g., group work activities, peer-to-peer feedback)

- assign moderators in group-based discussions. Moderators are responsible for facilitating the communication: they initiate the discussion, sustain the dialogue, promote reflection, synthesise, and summarise the points discussed
- add gamification elements if possible (e.g., points, scores, leaderboards, badges collected and displayed, levels, teams). They promote students' motivation to log into the online environment and be "socially" present, simultaneously being engaged with the content, to sustain their online persona.

B. **Teaching presence** is the "design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (Anderson, Rourke, Garrison, & Archer, 2001, p. 5). To promote the teaching presence, the following tips are suggested:

- set clear expectations for learners and model expected behaviour
- be present frequently, for instance more than 3 times/week. Make sure that you are available, and students can reach out to you (e.g., hold virtual office hours)
- guide students during their self-regulated learning
- make announcements, send private messages/emails to make sure that students are on track and aware of any deadlines, responsibilities, changes in the programme
- suggest additional up-to-date resources/information while the course is running
- promptly reply to students' inquiries and clarify misconceptions
- monitor and keep track of students' presence through the analytics of the digital tools
- encourage students through comments/messages about their contributions

C. **Cognitive Presence** is "the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse" (Garrison, Anderson & Archer, 2001, p. 93). To achieve this, we should focus on preparing and incorporating activities that build higher-order thinking skills (e.g., critical evaluation, analysis, synthesis), so that students are actively engaged with the learning content. Additional emphasis is placed on the reflective practices, the feedback provided, and the discussion established. To develop the cognitive presence, the following tips are provided:

- ask learners to identify their learning goal(s) for the course
- activate students' prior knowledge to clarify misunderstandings and monitor what they know. This way new knowledge will be built upon the previous one
- include examples to consolidate understanding. Examples allow students to relate the learning content with real life situations.

- provide thought-provoking feedback that promotes analysis and challenging of the ideas presented
- debrief modules and summarise discussions to pinpoint the concepts taught and their link to the learning outcomes
- develop learning activities that are relevant, challenging, collaborative, engaging, and require deep thinking.
- provide students with ample opportunities to apply the acquired knowledge/skills into situations that resemble real life.
- promote students' engagement with self-reflection and metacognitive strategies, so that students can effectively use the new knowledge
- include pair-/group-work, following the principles of social learning theories and promote reflection among students

Make sure that you follow the [GDPR regulations](#). Tips to maximise privacy:

- get informed consent from the students before using/sharing data
- encrypt documents with personal and/or sensitive data
- avoid including personal data within e-mails, chat, forums, or similar platforms. If you must share personal data, send it as an encrypted container
- use legal software and understand its privacy policy
- Teach learners how to protect themselves, e.g., create user accounts using pseudonyms and strong passwords

## Step 7: Develop and select instructional materials

Having the instructional strategy as a basis, we are ready to collect and develop the instructional material. The term material, here, is broad. It refers to the organisational, administrative, and pedagogical content. Specifically, we have to prepare both the guides and the content/resources for the activities of the modules that, subsequently, constitute the course material. The guides consist of detailed instructions/handbooks with the regulations, information about the support available, course diagrams including the learning outcomes, the content, the resources, the activities and assessment of the responsibilities, the deadlines of assignments. Regarding the learning content, we can choose instructional material either from an existing pool (e.g., OERs, trustworthy websites, previous courses, the same course in case it has already been delivered) and use it per se or with modifications. In many cases, there is a collection of digital textbooks for a number of disciplines and classes that are openly distributed and updated. Otherwise, we can develop new material from scratch. In both cases, we should always check the [Creative Commons licensing](#) and find

copyright free material (e.g., images from [Pixabay](#), [Unsplash](#)), etc.). The learning material needs to be multimodal including audiovisual elements and interactivity (e.g., links to web pages). We can include augmented Reality (AR), for example, through the ARTutor (Lytridis & Tsinakos, 2018), three-dimensional (3D) multi-user virtual worlds (VWs) (Pellas & Kazanidis, 2015), digital diagrams/graphics, photographs/images, maps and infographics, posters, rubrics, job aids, various multimedia such as podcasts, among other resources, including printed material (e.g., books). Having collected the so-called “raw” material, we have to refurbish the digital versions of it, organise it and present it using digital tools. To achieve this, we have to purposefully select which technology is needed to support the pedagogical purposes we want to achieve (Kalogerou, 2019). For example, tools for audio-recording/editing ([Audacity](#)), video capturing ([Screencast-o-matic](#)), video creation ([Animaker](#), [Plotagon studio](#)), infographic/mind mapping creation ([Genially](#), [Canva](#)), digital content creation ([H5P](#), [iSpring Free](#)), quiz creation ([Wordwall](#), [Quizizz](#)).

Since technology is vast, to discover the benefits and limitations of the tools we are considering to integrate, we could use [ready-made rubrics](#) or prepare our own, for evaluation purposes. The rubrics can include specific criteria based on which each tool will be evaluated. Some examples of criteria are the following:

- whether the software meets the goals/standards of the curriculum (in terms of content either provided by the tool itself or developed using the tool)
- the degree of students’ involvement and interaction
- the degree of interaction with other users (e.g., especially if the tool is used for collaboration)
- the extent to which students engage with higher level thinking activities
- the degree of assistance/support (e.g., links to external websites, additional material) provided within the tool
- whether students’ progress can be tracked
- the degree of accessibility (e.g., the graphics/links/reading format) to cover learning abilities
- the quality of the multimedia incorporated
- the extent to which the design and structure is easy-to-use and navigate
- the extent to which the instructor can access students’ responses/interaction to monitor progress and provide feedback
- the extent to which the software is effective in teaching and/or assessing the desired content (depending on which of the two purposes we use it for)
- the degree of adaptability, that is the level on which the tool adapts to students’ learning needs such as the speed, the acquired skills, etc.

While we are preparing the content to be developed, we have to ensure that:

- it is organised and presented in topic-based modules that are interrelated and logically organised (e.g., from a general introduction to more specific case studies)
- there are subunits/subsections to present information in shorter chunks and strengthen understanding
- the modules are organised into time periods (e.g., weekly format) with clear timeline for students' reference
- it has a clear and consistent structure (e.g., introduction/outline/instructions, learning activities/additional resources, assessment)
- the content/material is aligned with the learning outcomes we have set
- there is a visual calendar that marks all the dates/deadlines of important events (e.g., teleconferences, etc.)

The steps described above fall into the design and development phases of the ADDIE model. Based on the **ADDIE model**, during the **Design phase** we conduct the following:

1. **Design assessments:** Which assessment we need to design to achieve the learning objectives? To design effective assessment, we consider the goals we have set during the analysis phase. These guide the development of the assessment. If we want students to be able to perform something, at the end of the course, we have to ensure that we test whether they have acquired this skill upon completion of the course. Along with that, we consider what learners are already able to do, before asking them to complete the assessment. For instance, we need to ensure whether they know how to use the digital tool through which assessment will be delivered, have the abilities to share information online and/or navigate the eLearning environment, possess time management skills, and know how/when to ask for help (Naujoks et al., 2021). We also have to ensure that we will be assessing knowledge and skills in a context that resembles, as closely as possible, the actual situation/setting where the performance takes place (e.g., if we want them to know how to carry out an experiment, a multiple-choice quiz is not a context where this knowledge is actually applied). The assessment needs to be clearly written and the relevant instructions show the expectations we have from students. Moreover, there should not be purposefully complicated or misleading questions.
2. **Choose a course format:** What is the medium through which instruction will be delivered? In our case, it will be delivered over the Internet with the support of technology. For this reason, we have to select a comprehensive Learning Management System with integral and external digital tools that will constitute the

online environment along with format options such as gamification or mobile learning that may be integrated.

3. **Create an instructional strategy:** What is the material with which students will engage, to learn the content of the course and achieve the objectives? This includes any reading material, lectures, projects, worksheets, discussions, activities, and assessment.

As suggested by Dick and Carey the instructional strategy includes defining the:

- pre instructional activities that will motivate students, communicate the objectives, and show them the relevance of instruction with the real world and their own goals.
- presentation of the content that needs to be concise, in line with the objectives, including detailed examples.
- learners' participation, specifically the tasks they will practice and the feedback they will gather
- assessment, including the formative and summative assessment of learners' skills, attitudes, and satisfaction
- follow-up activities that will allow the learners to review what have learned, promoting self-reflection and metacognition.

In the ADDIE model, the design is followed by the **Development phase** where we:

1. **Create a sample of the instruction**, a prototype, based on what has been described during the design phase. This can be evaluated by external or internal evaluators at the University.
2. **Develop the actual course material** based on the instructional strategy defined and the sample of the instruction.
3. **Conduct a run-through, a "rehearsal" of the instruction**, experimenting with participants who can provide you with feedback.

Then we actually implement the instruction. During **Implementation**, we:

1. **Train/prepare the instructor**. This is applied in cases where the instructional designer, engaging with the design of the course, and the instructors are not the same person. In many universities those who teach the course are also the designers/developers. In any case, this is the step where the instructor is prepared (either on his/her own or by the instructional designer) about the official delivery of the course.
2. **Train/prepare the learners** about the instruction, ensuring that enrollment is completed, they meet any prerequisites for attending the course, and they are familiar with or even trained on how to use the digital tools and LMS.

3. **Organise the learning environment/space** and make any arrangements, ensuring that everything is in place, in terms of the material, the activities, and technicalities. We need to make sure that any challenges that may arise, for instance the system fails, can be tackled.

For effective teaching and learning, we can also consider the “Nine (9) events of instruction” suggested by Gagne. Based on these principles, we can reflect on whether the following elements are incorporated in the online learning experience (Çetin & Ebru, 2020; Gagné, Briggs, & Wager, 1992):

- a. **Gaining students’ attention:** to achieve this, we can use thought-provoking questions while showing to students the relevance and benefits of the instruction in their real life. We can also incorporate compelling storytelling, multimedia, and eye-catching phrases and content. The main goal is to make students want to engage with and invest in the learning process.
- b. **Informing learners of the objectives:** learners need to know the learning objectives we have set, what they are expected to learn, in order to act towards this goal. This should be clear from the beginning and throughout the instruction.
- c. **Stimulating recall of prior learning:** learners need to know the context of new learning. For this reason, we can recall their previous knowledge by asking relevant questions, engage them with brainstorming, ask them to make a mind map connecting interrelated knowledge and/or have a discussion board where they can relate the new course with previous ones.
- d. **Presenting the content:** we can incorporate various methods of presentation such as games, simulations, 3D content, scenarios, case studies, podcasts.
- e. **Providing guidance:** this can be achieved by chunking the content into small, manageable units, from simple to more complex ones with summaries (e.g., beginning end of topic), ample examples, analogies, comparisons. Some online aids include repositories with case studies and checklists. Students can assist each other via discussion forums. Additionally, frequent opportunities for reviewing the content such as self-reflection questions are highly recommended. For every activity/assessment, students need to know what is expected from them through detailed instructions, demonstrations, and/or rubrics.
- f. **Eliciting performance:** it is important to give opportunities to students to practice and reinforce what has been learned, through decision-making scenarios, projects and other authentic activities. Opportunities for repetition and self-review are highly recommended.

- g. **Providing feedback:** this should be done in a timely manner, and should vary, from being remedial to being informative or analytical.
  - h. **Assess performance:** we need to include various types of assessment while ensuring that all questions cover the objectives set.
  - i. **Enhancing retention and learning transfer:** we can ask students to map the content learned to their real-life situations and activities, providing opportunities for them to use the new skills/knowledge. For instance, they can respond to “what-if-scenarios”.
- 

### Step 8: Design and conduct the formative evaluation of instruction

We have to evaluate the course design while it is still being drafted (e.g., have external evaluators/colleagues/students evaluate the prototype/draft) as well as while the course is running. The former type is important for the design process so that revisions are prompted. The latter indicates the collection of data through various mediums, such as discussions with students (either individually or in small groups), learning analytics, which provide the instructor/designer with information for improvement of the instruction.

### Step 9: Design and conduct summative evaluation

This type of evaluation is conducted after the course and instruction is completed and it is not conducted during the process of designing the instruction. Summative evaluation can have a format similar to the formative one, including external or internal evaluators through surveys, interviews, discussions, and learning analytics. A good practice suggested in the literature is to measure students' satisfaction about an online course (Al-Fraihat, Joy, & Sinclair, 2018; Hadullo, Oboko, & Omwenga, 2017). The instructors/designers can also engage with a [reflective practice](#) to spot the challenges/obstacles they had to face and find solutions for the redesign/restructuring of the course.

The nine steps, presented so far, are part of designing the learning experience. The Dick and Carey model includes a tenth step which is applied after the delivery of the instruction.

### Step 10: Revise instruction

We can synthesise the data collected through formative and summative evaluation and present them in practical terms, to expose any difficulties, obstacles, and recommendations. This way, we can evaluate whether all the steps taken were effective and examine ways of improving them. We can, then, modify the practices followed, specifically the instructional strategy to make it a more effective tool.

Similarly, the ADDIE model is completed by the **Evaluation phase**. Even though it appears as a last step resembling the summative evaluation step described above, evaluation is an ongoing procedure, since we also evaluate the instruction formatively while the course is being designed and running. The feedback gathered both during and at the end of the instruction can provide us with guidelines for further revision and refurbishment.

**Some useful questions to ask yourselves:**

- Did the students master the content? Are they able to apply the new knowledge/skills?
- What worked or did not work well?
- Were/Are the learners motivated? Were/Are they satisfied?
- In which ways can we improve the learning experience?

Below (Fig. 1), you can find a flowchart of the overall procedure and the steps described so far, in this section.

**Figure 1.** Flowchart of the online course design methodology

|                                  |                                                                                                                                   |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Needs assessment                 | previous experience<br>past results<br>requirements                                                                               |
| Instructional analysis           | goal setting<br>learning expectations<br>learning needs                                                                           |
| Analysis of learners & context   | learners' current profile (skills, knowledge, attitudes, preferences, etc.)<br>online learning environment needs and requirements |
| Learning outcomes                | expected outcomes: who, what, under which conditions, in what degree                                                              |
| Assessment method                | in line with the outcomes<br>ongoing-summative<br>authentic                                                                       |
| Instructional strategy           | learning activities<br>pedagogical methods<br>social, cognitive, teaching presence                                                |
| Instructional material           | organisational, administrative, pedagogical content, ready-made or from scratch<br>tech tools to support                          |
| Formative & Summative Evaluation | evaluation of the course design<br>external or internal evaluators - surveys, interviews, discussions, learning analytics         |
| Revision                         | revision of instruction after delivery<br>difficulties, obstacles, recommendations<br>next steps                                  |



## Section 2: eLearning readiness checklist



### 2.1. Overview

The current section includes a detailed checklist adapted from the SELFIE tool that has been produced by the European Commission (2019). SELFIE is an original tool for schools and educational institutions, to measure the effectiveness of the integration of digital technologies into education and training. SELFIE works as an assessment; based on the results, a customised report is produced to help educational organisations prepare an action plan for proper incorporation of new technologies in learning. Considering that there is no such tool for assessing the delivery of distance learning, the consortium of the “OnlineHE” project has developed a practical checklist, using the SELFIE tool as a foundation. Following the directives of the European Commission, the checklist is divided into eight (8) areas that cover the whole spectrum of educational programmes. In each area there are specific sentences that reflect efficient actions to be followed for effective implementation of online learning: practices for leadership, collaboration and networking, infrastructure and

equipment, continuous professional development, teaching and learning (support/resources and implementation), online assessment, and learners' digital competence. The university leaders and instructors can use this checklist as a reference and evaluation tool, to identify the extent to which these best practices are followed (e.g., never-almost always), when they implement remote learning programmes. They can also consult university students' opinions, by including the relevant sentences that ask for their input in some type of evaluation during/at the end of an educational programme/course.

© European Union, 2019

The reuse policy of the European Commission is implemented by the Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39). Except otherwise noted, the reuse of this document is authorised under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated. For any use or reproduction of photos or other material that is not owned by the EU, permission must be sought directly from the copyright holders.

## 2.2 Content areas of eLearning readiness checklist

You can be redirected to the following areas, by clicking the titles:

- [Area A: Leadership](#) - the role of leadership in integrating online teaching and learning in Higher Education Institutions.
- [Area B: Collaboration and Networking](#) - the measures a university takes to create and maintain a community of collaboration and communication. The aim is to share experiences and learn effectively within and beyond the organisational boundaries.
- [Area C: Infrastructure and Equipment](#) - having adequate, reliable, and secure infrastructure (such as equipment, software, information resources, internet connection, technical support). This can facilitate innovative online teaching, learning and assessment practices.
- [Area D: Continuing Professional Development](#) - whether the university facilitates and invests in the continuing professional development (CPD) of its staff (leaders, faculty, support staff) at all levels. CPD can support the development and integration of innovative online teaching and learning to achieve better learning outcomes.
- [Area E: Teaching and Learning: Supports and Resources](#) - the preparation of using digital technologies for learning by updating and innovating online teaching and learning practices.
- [Area F: Teaching and Learning: Implementation](#) - implementing digital technologies for learning, by updating and innovating online teaching and learning practices.
- [Area G: Online assessment practices](#) - measures that the university may take to integrate effective online assessment practices. This refers to learner-centered, personalised and authentic online assessment.
- [Area H: Learner Digital Competence](#) - the set of skills, knowledge, and attitudes that university students possess in order to use the digital technologies with confidence, creativity and critical thinking.

## Area A: Leadership

| Leadership                                              |                                                                                             |                                                                                             | From 1 to 5:<br>Never- Rarely - Occasionally - To a considerable degree - Almost always |                          |                          |                          |                          |                          |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ITEM TITLE                                              | UNIVERSITY LEADER                                                                           | UNIVERSITY INSTRUCTOR*                                                                      | 1                                                                                       | 2                        | 3                        | 4                        | 5                        | N/A                      |
| <b>1. Digital strategy</b>                              | In our university, we have a digital strategy.                                              | In our university, we have a digital strategy.                                              | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>2. Strategy development with university teachers</b> | We develop the digital strategy for our university together with the instructors.           | Our university leaders involve me in the development of the university's digital strategy.  | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>3. Innovation in online teaching</b>                 | We support instructors to try out new ways of teaching online.                              | Our university leaders support me in trying out new ways of teaching online.                | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>4. Involving companies in strategy</b>               | The companies we collaborate with are involved in the development of university's strategy. | The companies we collaborate with are involved in the development of university's strategy. | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>5. Time to improve online teaching</b>               | Instructors have time to explore how to improve their online teaching.                      | I have time to explore how to improve my online teaching.                                   | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>6. Copyright and</b>                                 | We follow copyright and                                                                     | We follow copyright and licensing                                                           | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|                        |                                                                                   |                                                                         |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------|--|--|--|--|--|--|
| <b>licensing rules</b> | licensing rules when using digital technologies for online teaching and learning. | rules when using digital technologies for online teaching and learning. |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------|--|--|--|--|--|--|



\*Since ranking and titles differ across university institutions, this category refers to teaching staff at a university level.

## Area B: Collaboration and Networking

| Collaboration and Networking                  |                                                                                                                             |                                                                                                                             |                                                                                                                             | From 1 to 5:<br>Never- Rarely - Occasionally - To a considerable degree - Almost always |                          |                          |                          |                          |                          |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ITEM TITLE                                    | UNIVERSITY LEADER                                                                                                           | UNIVERSITY INSTRUCTOR                                                                                                       | UNIVERSITY STUDENT                                                                                                          | 1                                                                                       | 2                        | 3                        | 4                        | 5                        | N/A                      |
| <b>1. Progress review</b>                     | In our university, we review our progress in online teaching and learning.                                                  | In our university, we review our progress in online teaching and learning.                                                  |                                                                                                                             | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>2. Discussion on the use of technology</b> | We discuss the advantages and disadvantages of teaching and learning online with digital technologies.                      | We discuss the advantages and disadvantages of teaching and learning online with digital technologies.                      | In our university, we talk with the faculty about the advantages and disadvantages of using technology for online learning. | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>3. Partnerships</b>                        | We use digital technologies in our partnerships with other organisations (universities, research centres, businesses etc.). | We use digital technologies in our partnerships with other organisations (universities, research centres, businesses etc.). |                                                                                                                             | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|                                                      |                                                                                                                                                            |                                                                                                                                                            |  |                          |                          |                          |                          |                          |                          |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>4. Synergies for Remote Teaching and Learning</b> | We collaborate with other universities/institutions or organisations in general (research centres, businesses) to support the use of digital technologies. | We collaborate with other universities/institutions or organisations in general (research centres, businesses) to support the use of digital technologies. |  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|



## Area C: Infrastructure and Equipment

| Infrastructure and Equipment           |                                                                                                                            |                                                                                                                            |                                                                                                 |                          |                          |                          |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|
| ITEM TITLE                             | UNIVERSITY LEADER                                                                                                          | UNIVERSITY INSTRUCTOR                                                                                                      | UNIVERSITY STUDENT                                                                              | YES                      | NO                       | N/A                      |
| <b>1. Infrastructure</b>               | The digital infrastructure supports teaching and learning online.                                                          | The digital infrastructure supports teaching and learning online.                                                          |                                                                                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>2. Digital devices for teaching</b> | In our university, there are digital devices to use for online teaching.                                                   | In our university, there are digital devices for me to use for online teaching.                                            |                                                                                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>3. Digital devices for learning</b> | There are university-owned/managed digital devices for students to use when they need them                                 | There are university-owned/managed digital devices for students to use when they need them                                 | In our university, there are computers or tablets for me to use for online learning when needed | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>4. Devices for students</b>         | There are university-owned and managed portable devices that students can take home for online/remote learning when needed | There are university-owned and managed portable devices that students can take home for online/remote learning when needed | There are portable devices for me to take home for online/remote learning when needed           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|                                                           |                                                                                                                                                                   |                                                                                                                                                                   |                                                                                       |                          |                          |                          |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|
| <b>5. Internet access</b>                                 | In our university, there is access to the Internet for teaching and learning.                                                                                     | In our university, there is access to the Internet for teaching and learning.                                                                                     | In our university, I have access to the Internet for learning                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>6. Technical support</b>                               | Technical support is available in case of problems with online learning.                                                                                          | Technical support is available in case of problems with online learning.                                                                                          | Technical support is available when I face problems with online learning.             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>7. Data protection</b>                                 | There are data protection systems in place.                                                                                                                       | There are data protection systems in place.                                                                                                                       | There are data protection systems in place.                                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>8. Database of training opportunities</b>              | Students have access to a database of training opportunities.                                                                                                     | Students have access to a database of training opportunities.                                                                                                     | I have access to a database of traineeships, apprenticeships, and other opportunities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>9. Digital divide: Measures to identify challenges</b> | We have measures in place to identify challenges that arise with remote teaching and learning, related to students' learning needs and socio-economic background. | We have measures in place to identify challenges that arise with remote teaching and learning, related to students' learning needs and socio-economic background. |                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|                                                             |                                                                                                                                                                          |                                                                                                                                                                  |                                                                                                             |                          |                          |                          |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|
| <b>10. Digital divide: Support to address challenges</b>    | We have a plan to help instructors deal with challenges that arise with remote teaching and learning, related to students' learning needs and socio-economic background. | There is a plan to help me deal with challenges that arise with remote teaching and learning, related to students' learning needs and socio-economic background. |                                                                                                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>11. Assistive technologies</b>                           | Students in need of special support have access to assistive technologies.                                                                                               | Students in need of special support have access to assistive technologies.                                                                                       |                                                                                                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>12. Online libraries/repositories</b>                    | There are online libraries or repositories with teaching and learning materials.                                                                                         | There are online libraries or repositories with teaching and learning materials.                                                                                 | There are online libraries with learning materials for my coursework.                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>13. Platforms/ Tools/ LMS for online/remote teaching</b> | We have platforms and tools available to support the delivery and management of online/remote teaching.                                                                  | We have platforms and tools that support the delivery and management of online/remote teaching.                                                                  | There are platforms and tools available that support the delivery and management of online/remote teaching. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## Area D: Continuing Professional Development (CPD) [1]

| Continuing Professional Development (CPD) [1]  |                                                                                                                                 |                                                                                                                        | From 1 to 5:<br>Never- Rarely - Occasionally - To a considerable degree - Almost always |                          |                          |                          |                          |                          |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ITEM TITLE                                     | UNIVERSITY LEADER                                                                                                               | UNIVERSITY INSTRUCTOR                                                                                                  | 1                                                                                       | 2                        | 3                        | 4                        | 5                        | N/A                      |
| <b>1. CPD needs</b>                            | We discuss with our instructors their CPD needs for teaching online/remotely.                                                   | Our university leaders discuss with us our CPD needs for teaching online/remotely.                                     | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>2. Sharing experiences</b>                  | We support our instructors to share experiences within the university community about teaching online/remotely.                 | Our university leaders support us to share experiences within the university community about teaching online/remotely. | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>3. CPD opportunities : technical aspect</b> | Our instructors have CPD opportunities for the use of digital technologies, specific to the courses they teach online/remotely. | I have CPD opportunities for the use of digital technologies, specific to the courses I teach online/remotely.         | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>4. CPD opportunities : pedagogy</b>         | Our instructors have CPD opportunities to improve their online teaching practices.                                              | I have CPD opportunities to improve my online teaching practices.                                                      | <input type="checkbox"/>                                                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## Area D: Continuing Professional Development (CPD) [2]

| Area D: Continuing Professional Development (CPD) [2]-<br>If you have participated within the last year in any of the following CPD activities on the pedagogical use of digital technologies for teaching online, please indicate their usefulness to you |  |                                                                                                                                         |  | From 1 to 5:<br>Not at all useful - Not useful - A little bit useful - Useful - Very useful - Did not participate |                          |                          |                          |                          |                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ITEM TITLE                                                                                                                                                                                                                                                 |  | UNIVERSITY INSTRUCTOR                                                                                                                   |  | 1                                                                                                                 | 2                        | 3                        | 4                        | 5                        | -                        |
| 1. Face-to-face professional learning                                                                                                                                                                                                                      |  | Face-to-face courses, seminars or conferences outside university.                                                                       |  | <input type="checkbox"/>                                                                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Online professional learning                                                                                                                                                                                                                            |  | Online courses, webinars or online conferences.                                                                                         |  | <input type="checkbox"/>                                                                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Learning through collaboration                                                                                                                                                                                                                          |  | Learning from other colleagues (instructors/researchers/ support staff) within your university through online or offline collaboration. |  | <input type="checkbox"/>                                                                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|                                                  |  |                                                                                                                                         |  |                          |                          |                          |                          |                          |                          |
|--------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>4. Learning through professional networks</b> |  | Learning from colleagues through online instructors' /academics' networks or communities of practice.                                   |  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>5. In-house mentoring/coaching</b>            |  | In-house mentoring or coaching, as part of a formal university arrangement.                                                             |  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>6. Other in-house training</b>                |  | Other in-house training sessions organised by the university (e.g., workshops by the ICT Coordinator or observing colleagues teaching). |  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>7. Study visits</b>                           |  | Study visits (for instance to other universities, research centres, businesses, or organisations).                                      |  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>8. Accredited programmes</b>                  |  | Accredited programmes (for instance short, accredited courses, degree programmes).                                                      |  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|                                                                |  |                                                                                                                                         |  |  |                          |                          |                          |                          |                          |
|----------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------|--|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>9. Other CPD opportunities</b>                              |  | Other CPD opportunities related to teaching online/remotely.                                                                            |  |  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Self-reflection:<br/>Examples of effective CPD activity</b> |  | Reflect and write an example of a CPD activity on the pedagogical use of digital technologies you found particularly effective for you. |  |  |                          |                          |                          |                          |                          |



## Area E: Teaching and Learning: Support and Resources

| Teaching and Learning: Support and Resources                                        |                                                                                   |                                                                  |  | From 1 to 5:<br>Never- Rarely - Occasionally - To a<br>considerable degree - Almost<br>always |                          |                          |                          |                          |                          |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ITEM TITLE                                                                          | UNIVERSITY LEADER                                                                 | UNIVERSITY INSTRUCTOR                                            |  | 1                                                                                             | 2                        | 3                        | 4                        | 5                        | N/A                      |
| <b>1. Online educational resources</b>                                              | Our instructors search online for digital educational resources.                  | I search online for digital educational resources.               |  | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>2. Creating digital resources</b>                                                | Our instructors create digital resources to support their online/remote teaching. | I create digital resources to support my online/remote teaching. |  | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>3. Digital resources for special needs learners</b>                              | Our instructors incorporate digital resources for special needs learners.         | I incorporate digital resources for special needs learners.      |  | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>4. Digital resources for personalised learning</b> (tailored to students' needs) | Our instructors incorporate digital resources for personalised learning.          | I incorporate digital resources for personalised learning.       |  | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|                                                                     |                                                                                                                                                                                         |                                                                                                                                                                           |                                                                                                                                                                     |                          |                          |                          |                          |                          |                          |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>5. Open educational resources</b>                                | Our instructors use open educational resources.                                                                                                                                         | I use open educational resources.                                                                                                                                         |                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>6.Using virtual learning environments</b>                        | Our instructors use virtual learning environments with students.                                                                                                                        | I use virtual learning environments with students.                                                                                                                        | Our instructors use online platforms to facilitate learning.                                                                                                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>7. Guidance/online tutorials</b>                                 | Our instructors include detailed guides/tutorials (e.g., course guides explaining the assignments, tutorials for how to use the online tools) to support students when learning online. | I include detailed guides/tutorials (e.g., course guides explaining the assignments, tutorials for how to use the online tools) to support students when learning online. | There are detailed guides/tutorials (e.g., course guides explaining the assignments, tutorials for how to use the online tools) to support me when learning online. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>8. Communicating with the university community</b>               | Our instructors use digital technologies/online platforms for university-related communication.                                                                                         | I use digital technologies/online platforms for university-related communication.                                                                                         |                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Self-reflection: Useful technology for teaching and learning</b> |                                                                                                                                                                                         | Reflect and write an example of a digital technology (equipment, software, platform, resource...) you find really useful for online/remote teaching.                      | Reflect and write an example of a digital technology (equipment, software, platform, resource...) you find really useful for online/remote learning.                |                          |                          |                          |                          |                          |                          |

## Area F: Teaching and Learning: Implementation

| Teaching and Learning: Implementation  |                                                                                                                |                                                                                               |                                                                         | From 1 to 5:<br>Never- Rarely - Occasionally - To a<br>considerable degree - Almost<br>always |                          |                          |                          |                          |                          |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ITEM TITLE                             | UNIVERSITY LEADER                                                                                              | UNIVERSITY INSTRUCTOR                                                                         | UNIVERSITY STUDENT                                                      | 1                                                                                             | 2                        | 3                        | 4                        | 5                        | N/A                      |
| <b>1. Tailoring to students' needs</b> | Our instructors use digital technologies to tailor their online/remote teaching to students' individual needs. | I use digital technologies to tailor my online/remote teaching to students' individual needs. | Teachers assign different online activities to us that suit our needs.  | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>2. Fostering creativity</b>         | Our instructors use online learning activities that foster students' creativity.                               | I use online learning activities to foster students' creativity.                              | I participate in online learning activities that enhance my creativity. | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>3. Engaging students</b>            | Our instructors set up online learning activities that engage students.                                        | I set up online learning activities that engage students.                                     | I participate in engaging online learning activities.                   | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>4. Student collaboration</b>        | Our instructors facilitate students' online collaboration.                                                     | I facilitate students' online collaboration.                                                  | We participate in online group work activities.                         | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>5. Authentic learning</b>           | Our instructors incorporate authentic, hands-on, online learning activities.                                   | I incorporate authentic, hands-on, online learning activities.                                | I participate in authentic, hands-on, online learning activities.       | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|                            |                                                                                                  |                                                                                    |                                                                        |                          |                          |                          |                          |                          |                          |
|----------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>6. Career guidance</b>  | We use online platforms for career counselling/guidance.                                         | We use online platforms for career counselling/guidance.                           | We use online platforms for career counselling/guidance.               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>7. Social presence*</b> | Our instructors incorporate strategies to develop the social presence in the online environment. | I incorporate strategies to develop the social presence in the online environment. | I participate in an online environment with increased social presence. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



\*It refers to the “the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop inter-personal relationships by way of projecting their individual personalities” (Garrison, 2009, p.352)

## Area G: Online assessment practices

| Online assessment practices           |                                                                                                                                                       |                                                                                                                                         |                                                                                                                                             | From 1 to 5:<br>Never- Rarely - Occasionally - To a<br>considerable degree - Almost<br>always |                          |                          |                          |                          |                          |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ITEM TITLE                            | UNIVERSITY LEADER                                                                                                                                     | UNIVERSITY INSTRUCTOR                                                                                                                   | UNIVERSITY STUDENT                                                                                                                          | 1                                                                                             | 2                        | 3                        | 4                        | 5                        | N/A                      |
| <b>1. Assessing skills</b>            | Our instructors use appropriate digital technologies to assess various students' skills (e.g., academic-related, interpersonal, metacognition, etc.). | I use appropriate digital technologies to assess various students' skills (e.g., academic-related, interpersonal, metacognition, etc.). | Our instructors use appropriate digital technologies to assess various skills (e.g., academic-related, interpersonal, metacognition, etc.). | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>2. Timely feedback</b>             | Our instructors provide timely feedback to students, using digital technologies.                                                                      | I provide timely feedback to students, using digital technologies.                                                                      | I get timely feedback through digital technologies.                                                                                         | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>3. Self-reflection on learning</b> | Our instructors enable students to reflect on their own learning through online activities.                                                           | I enable students to reflect on their own learning through online activities.                                                           | I have opportunities to reflect on my strengths and weaknesses as a learner through online activities.                                      | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>4. Feedback to other students</b>  | Our instructors provide opportunities for student-to-student feedback.                                                                                | I provide opportunities for student-to-student feedback.                                                                                | I have opportunities to provide feedback to other students.                                                                                 | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|                                                       |                                                                                                                                                          |                                                                                                                                            |                                                                                         |                          |                          |                          |                          |                          |                          |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>5. Online assessment</b>                           | We support our instructors in using digital technologies for various types of online assessment (diagnostic, formative, authentic, etc.).                | Our university leaders support us in using digital technologies for online assessment (diagnostic, formative, authentic, etc.).            |                                                                                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>7. Using data to improve learning</b>              | Our instructors use digital data (e.g., activity logs in an LMS, activity tracking etc.) about individual students to improve their learning experience. | I use digital data (e.g., activity logs in an LMS, activity tracking etc.) about individual students to improve their learning experience. |                                                                                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>8. Valuing skills developed outside university</b> | Our instructors value digital skills that students have developed outside university and work-based settings.                                            | I value digital skills that students have developed outside university and work-based settings.                                            | Our instructors value digital skills that I have developed outside school or workplace. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



## Area H: Learner Digital Competence

| Learner Digital Competence                |                                                                                             |                                                                                             |                                                                                   | From 1 to 5:<br>Never- Rarely - Occasionally - To a<br>considerable degree - Almost<br>always |                          |                          |                          |                          |                          |
|-------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ITEM TITLE                                | UNIVERSITY LEADER                                                                           | UNIVERSITY INSTRUCTOR                                                                       | UNIVERSITY STUDENT                                                                | 1                                                                                             | 2                        | 3                        | 4                        | 5                        | N/A                      |
| <b>1. Safe behaviour</b>                  | Students learn how to behave safely online.                                                 | Students learn how to behave safely online.                                                 | I learn how to behave safely online.                                              | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>2. Responsible behaviour</b>           | Students learn how to behave responsibly when they are online.                              | Students learn how to behave responsibly when they are online.                              | I learn how to behave responsibly and respect others when I am online.            | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>3. Checking quality of information</b> | Students learn how to check that the information they find online is reliable and accurate. | Students learn how to check that the information they find online is reliable and accurate. | I learn how to check that the information I find online is reliable and accurate. | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>4. Giving credit to others' work</b>   | Students learn how to give credit to others' work they have found online.                   | Students learn how to give credit to others' work they have found online.                   | I learn how to use others' work I have found online.                              | <input type="checkbox"/>                                                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|                                                               |                                                                                            |                                                                                                                |                                                                 |                          |                          |                          |                          |                          |                          |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>5. Creating digital content</b>                            | Students learn to create digital content.                                                  | Students learn to create digital content.                                                                      | I learn how to create digital content.                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>6. Learning to communicate</b>                             | Students learn to communicate using digital technologies.                                  | Students learn to communicate using digital technologies.                                                      | I learn how to communicate using technology.                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>7. Digital skills across subject areas/fields of study</b> | We ensure that students develop their digital skills across subject areas/fields of study. | Our university leaders ensure that students develop their digital skills across subject areas/fields of study. | I use technology in different subject areas/fields of study.    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>8. Solving technical problems</b>                          | Our students learn how to solve technical problems when using digital technologies.        | Our students learn how to solve technical problems when using digital technologies.                            | I learn how to solve technical problems when using technology.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>9. Skills for academic qualification</b>                   | Our students develop digital skills related to their academic qualification.               | Our students develop digital skills related to their academic qualification.                                   | I develop digital skills specific to my academic qualification. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## Section 3: Best practices



This section includes thirty (30) best practices identified by the consortium through the national and European literature, in the field of distance education and online learning. The practices collected are Open Educational Resources (OERs), MOOCs, guidelines, initiatives, previous projects, and tools/platforms to help university leaders, instructors, staff, and learning designers improve the integration of eLearning.

To facilitate better navigation across the collection, the practices are grouped based on a general category in which they fit. Even though some types may fall into more than one category, we have chosen four main categories for the division:

1. MOOCs/Training programmes
2. Open Educational Resources [OERs]
3. Digital & Online tools/software
4. Guidelines for teaching, learning, and assessment

For each best practice, apart from the logo and title, there is a table which includes information and details about the:

- specific topic/area it covers. The content may apply to all/various Higher Education subjects and disciplines and/or to specific ones.
- exact type of it (e.g., online presentation tool)
- date released (if known)
- partners/network (project partners, founders, teams)
- level it corresponds to (national/institutional, international/EU)
- method/approach and/or theories used (if applicable)
- specific purpose/aim to be achieved
- target audience (Higher Education faculty & staff, University leadership teams, learning designers/educational technologists, and Higher Education students) that can use the material/resource/application and benefit from it directly or indirectly.
- evaluation (results) of its effectiveness (if applicable)
- any lessons learned which are relevant to the project (if applicable)
- web link
- online resources the practice refers to/includes, and/or references on which it is based
- additional notes (if any)

## Category 1: MOOCs/Training programmes



## Best practice 1: Learn2Analyze



### Learn2Analyze

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Topic/ Area                                               | Open to all HE subjects/disciplines<br>Learning analytics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2. Title                                                     | Learn2Analyze MOOC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 3. Type of Best Practice                                     | Training Programme/MOOC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 4. Date released                                             | December 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 5. Partners/ network                                         | <p>The Learn2Analyze consortium is an international Knowledge Alliance of six organisations from five different European Union countries and one partner from Australia:</p> <ul style="list-style-type: none"> <li>• University of Piraeus Research Center (UPRC)- Greece</li> <li>• Universität Mannheim (UMA)-Germany</li> <li>• Norwegian University of Science and Technology (NTNU)- Norway</li> <li>• imc information multimedia communication AG (imc)- Germany</li> <li>• Lattanzio Learning s.r.l. (LL)-Italy</li> <li>• Enovation (ES) -Ireland</li> <li>• Curtin University (CU) -Australia</li> </ul> |
| 6. Level                                                     | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 7. Description of the methods/ approach and/or theories used | The project addresses the importance of data-driven approaches for the design and delivery of online courses. Educational Data Analytics is promoted as a method of personalising the learning experience.                                                                                                                                                                                                                                                                                                                                                                                                         |
| 8. Purpose/Aim                                               | The aim of the Learn2Analyze project is to:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | <p>-enhance existing competence frameworks for instructional designers and e-trainers of online courses with new Educational Data Literacy competences for using emerging Educational Data Analytics methods and tools.</p> <p>-develop and evaluate a series of professional development Massive Open Online Courses (MOOCs) for cultivating these competences with emphasis to combining theory and practice in the form of authentic work-oriented tasks.</p> |
| 9. Target group                                                       | <p>Higher Education faculty &amp; staff</p> <p>University leadership teams</p> <p>Learning designers/educational technologists</p> <p>Higher Education students</p>                                                                                                                                                                                                                                                                                              |
| 10. Evaluation (results) of its effectiveness (if applicable)         | <p>Since this is a training/MOOC, its effectiveness is evaluated by the end-users (the participants themselves) who fill in:</p> <ul style="list-style-type: none"> <li>• A pre-course survey</li> <li>• A post-course survey</li> <li>• A final assessment quiz</li> </ul> <p>Dissemination and exploitation activities can be found <a href="#">here</a>.</p>                                                                                                  |
| 11. Overview of the lessons learned which are relevant to the project | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 12. Web link                                                          | <a href="https://learn2analyse.eu/">https://learn2analyse.eu/</a>                                                                                                                                                                                                                                                                                                                                                                                                |
| 13. References/ online sources                                        | <p>Any interested parties can enroll and participate in the MOOC for free, through the website of the project: <a href="https://learn2analyse.eu/">https://learn2analyse.eu/</a>.</p> <p>Facebook group: <a href="https://www.facebook.com/groups/Learn2Analyze/">https://www.facebook.com/groups/Learn2Analyze/</a></p>                                                                                                                                         |
| 14. Additional notes                                                  | Project Number 588067-EPP-1-2017-1-EL-EPPKA2-KA                                                                                                                                                                                                                                                                                                                                                                                                                  |

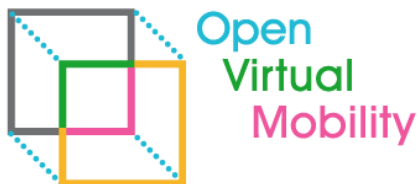
## Best Practice 2: OpenupEd

|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1. Topic/ Area                                                                     | Open to various HE subjects/disciplines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2. Title                                                                           | OpenupEd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 3. Type of Best Practice                                                           | MOOCs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 4. Date released                                                                   | April 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5. Partners/ network                                                               | OpenupEdu is an open, pan-European partnership. It was set up by the European Association of Distance Teaching Universities ( <a href="#">EADTU</a> ). Partners who meet specific <a href="#">criteria</a> are eligible to become part of the extended network. The <a href="#">list</a> of partners is updated based on the members that are joining.                                                                                                                                                                                                                                         |
| 6. Level                                                                           | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 7. Description of the methods/ approach and/or theories used                       | <p>OpenupEd is a non-profit partnership that provides online courses (MOOCs) for higher education, in line with the idea of open and inclusive education. The framework on which they base the development of the courses places the following characteristics in the centre of attention:</p> <ul style="list-style-type: none"> <li>• Learner-centred</li> <li>• Openness to learners</li> <li>• Digital openness</li> <li>• Independent learning</li> <li>• Media-supported interaction</li> <li>• Recognition options</li> <li>• Quality focus</li> <li>• Spectrum of diversity</li> </ul> |
| 8. Purpose/Aim                                                                     | <p>The aim is to reach out to various learners, providing inclusive and equitable quality education for all. It offers both self-paced and time-bound MOOCs that:</p> <ul style="list-style-type: none"> <li>• can accommodate a large numbers of participants</li> <li>• can be easily accessed by anyone anywhere with Internet connection as the only prerequisite. They are also free of charge.</li> </ul>                                                                                                                                                                                |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | <ul style="list-style-type: none"> <li>do not require entry qualifications</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 9. Target group                                                       | Higher Education faculty & staff<br>University leadership teams<br>Learning designers/educational technologists<br>Higher Education students                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 10. Evaluation (results) of its effectiveness (if applicable)         | To evaluate the quality, the partnership has developed <a href="#">a quality label</a> for MOOCs, published in 2014, tailored to both e-learning and open education. This constitutes a tool for improvement, comparing institutional performances with current best practices. The label includes a list of 32 statements, both for self and external assessment of courses and institutions. This way, measures can be taken to enhance the quality of MOOCs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 11. Overview of the lessons learned which are relevant to the project | In a JRC report (Souto-Otero, et. al., 2016), members of the partnership identify the following benefits: <ul style="list-style-type: none"> <li>increased visibility from the participation in the initiative</li> <li>multiple channels through which courses are offered to reach out to different learners (including international learners).</li> <li>members of the OpenupEd are members of a well-known and quality-driven brand that supports the openness of the universities.</li> <li>a portal created works as a reference point for the institutional platforms, increasing the visibility of the courses offered by the university and widen the market coverage.</li> <li>members can become part of a transnational project, a community that exchanges good practices</li> <li>more services are explored so that they can be offered in the future such as licensing support, joint platform offer, scalability of pedagogical designs, sharing data on business model, etc. (Souto-Otero, et. al., 2016, pp. 92-94).</li> </ul> |
| 12. Web link                                                          | <a href="https://www.openuped.eu/">https://www.openuped.eu/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 13. References/ online sources                                        | Courses offered: <a href="https://www.openuped.eu/courses">https://www.openuped.eu/courses</a><br>Quality of MOOCs label:<br><a href="https://www.openuped.eu/images/docs/OpenupEd_quality_label_-_Version1_0.pdf">https://www.openuped.eu/images/docs/OpenupEd_quality_label_-_Version1_0.pdf</a><br>Souto-Otero, M., Inamorato dos Santos, A., Shields, R., Lažetić, P., Castaño-Muñoz, J., Devaux, A., Oberheidt, S., Punie, Y. (2016) OpenCases: Case Studies on Openness in Education. Institute for                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                      |                                                                                                                 |
|----------------------|-----------------------------------------------------------------------------------------------------------------|
|                      | Prospective Technological Studies, Joint Research Centre, European Commission. EUR 27937 EN, doi:10.2791/039825 |
| 14. Additional notes | N/A                                                                                                             |

### Best Practice 3: Open Virtual Mobility

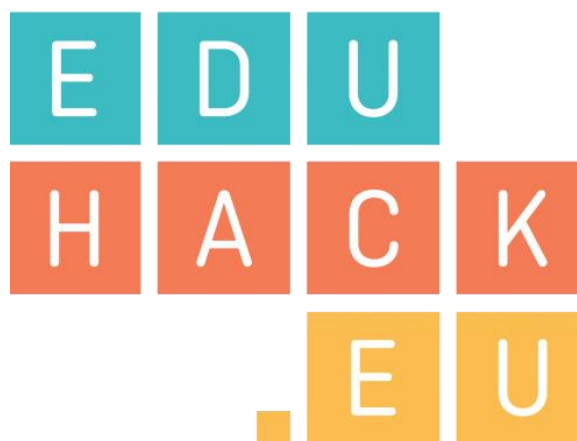
|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1. Topic/ Area                                                                     | Open to all HE subjects/disciplines<br>Virtual mobility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2. Title                                                                           | OpenVM: Opening Education for Developing, Assessing and Recognising Virtual Mobility Skills in Higher Education                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 3. Type of Best Practice                                                           | Guidelines<br>OERs<br>MOOC<br>Reports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 4. Date released                                                                   | August 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 5. Partners/ network                                                               | <p>The openVM is an Erasmus+ Key Action 3 project (cooperation for innovation and the exchange of good practices, strategic Partnerships for higher education, development of Innovation strategic partnerships for higher education).</p> <p>Project coordinator: Beuth University of Applied Sciences (<a href="http://www.beuth-hochschule.de/">http://www.beuth-hochschule.de/</a>)</p> <p>Partners:</p> <ul style="list-style-type: none"> <li>• Università degli studi Roma TRE (<a href="http://cdm.uniroma3.it">http://cdm.uniroma3.it</a>)</li> <li>• Open Universiteit – Welten Instituut (<a href="https://www.ou.nl/">https://www.ou.nl/</a>)</li> <li>• Universitatea Politehnica Timisoara (<a href="http://www.upt.ro">http://www.upt.ro</a>)</li> <li>• AUNEGE (<a href="http://www.aunege.org">http://www.aunege.org</a>)</li> <li>• Universitat de les Illes Balears (UIB) (<a href="http://www.uib.eu">http://www.uib.eu</a>)</li> </ul> |

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                              | <ul style="list-style-type: none"> <li>• Cineca (<a href="https://www.cineca.it">https://www.cineca.it</a>)</li> <li>• KU Leuven (<a href="http://www.kuleuven.be">http://www.kuleuven.be</a>)</li> <li>• EADTU (<a href="http://www.eadtu.eu">http://www.eadtu.eu</a>)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 6. Level                                                     | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7. Description of the methods/ approach and/or theories used | <p>As described on the website of the project, openVM applies the principles of Open Education to promote achievement, assessment, and recognition of Virtual Mobility (VM) Skills. Both VM and OE aim to enhance participation in international knowledge sharing, improve teaching and learning by setting international benchmarks, attract and keep talents for the economy and research systems, innovate and build capacity. The key innovations are:</p> <ul style="list-style-type: none"> <li>• Online, Open &amp; Flexible Higher Education approach to promote the achievement, assessment, and accreditation of VM Skills</li> <li>• Innovative pedagogies for achievement of VM Skills, such as Open Learning by Design and Crowd Creation of OERs and MOOCs</li> <li>• Innovative approaches/technologies for assessment and recognition of VM Skills: Evidence-based assessment, Open Credentials (Open Badges, Blockcerts), semantic/machine-readable description of VM Skills with links to competency frameworks</li> <li>• Engaging and effective learner experience in a Personal Learning Environment making use of gamification designs</li> </ul> |
| 8. Purpose/Aim                                               | <p>The project addresses the need to create accessible opportunities for successful VM in Higher Education. It is focused on:</p> <ul style="list-style-type: none"> <li>• improving VM Skills and the respective preparedness in HE</li> <li>• creating a European VM Learning Hub for achievement, assessment, and recognition of VM Skills</li> <li>• developing innovative tools and methods to enhance achievement, assessment, and recognition of VM Skills.</li> <li>• providing sustainable infrastructure, resources, and guidelines for enhancement of VM Skills, design and implementation of VM in HE in Europe</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                               | <ul style="list-style-type: none"> <li>providing evidence about how assessment and accreditation of VM Skills contributes to integrating VM</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 9. Target group                                               | Higher Education faculty & staff<br>University leadership teams<br>Learning designers/educational technologists<br>Higher Education students                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 10. Evaluation (results) of its effectiveness (if applicable) | <p>When evaluating the usability of the Virtual Mobility Learning Hub, one of the project outputs (an online learning environment for the development, assessment and recognition of virtual mobility skills in higher education), through focus groups, user observation sessions, error testing, surveys, and expert reviews. (Total of 139 participants), the partnership identified the following:</p> <ul style="list-style-type: none"> <li>a Moodle-based Learning Management System provides an effective user experience for open, online, not instructor-led courses. This is dependent, though, on the content and the activities.</li> <li>the participants expressed overall satisfaction with minor issues in terms of interface/multimedia (Andone, Vert, Mihaescu, Stoica, &amp; Ternauciuc, 2020).</li> <li>participants evaluated positively the Badges, Technical features, and Gamification elements of the MOOCs. Three out of eight MOOCs obtained the highest evaluation: Intercultural skills, Autonomy-driven learning, Open Mindedness.</li> </ul> <p>The partnership also provided a detailed <a href="#">report</a> on quality assurance of the project.</p> |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11. Overview of the lessons learned which are relevant to the project | <ul style="list-style-type: none"> <li>• Creation of a central European Open Virtual Mobility Learning Hub where learners, teachers and higher education policy makers can meet and find VM courses and projects. It enhances networking and exchanging ideas for improving the field.</li> <li>• Through the OpenVM MOOCs, students can develop important transversal skills and 21st century competences including digitalisation, collaboration and openness. The MOOCs promote the skills necessary to be involved in a VM program.</li> <li>• The OpenVM OER repository includes OERs in English and in the partners' language (German, Italian, Romanian, Dutch, French and Spanish), organised according to the skills necessary to be involved in VM</li> <li>• Based on the evaluations, it is evident that the VM model is effective for expanding and opening up higher education.</li> </ul> |
| 12. Web link                                                          | <a href="https://www.openvirtualmobility.eu/">https://www.openvirtualmobility.eu/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 13. References/ online sources                                        | <p>Andone D., Vert S., Mihaescu V., Stoica D., Ternauciuc A. (2020). Evaluation of the Virtual Mobility Learning Hub. In: Zaphiris P., Ioannou A. (eds) Learning and Collaboration Technologies. Designing, Developing and Deploying Learning Experiences. HCI 2020. Lecture Notes in Computer Science, 12205. Springer, Cham. doi: 10.1007/978-3-030-50513-4_2</p> <p><a href="#">O1: framework and guidelines</a><br/> <a href="#">O2: OpenVM Learning Hub</a><br/> <a href="#">O3: Competency Directory and Learning Group Formation Tool</a><br/> <a href="#">O4: E-assessment Concept and Self-assessment Tool</a><br/> <a href="#">O5: OpenVM Credentials &amp; Meaningful Gamification</a><br/> <a href="#">O6: OpenVM OERs &amp; MOOC</a><br/> <a href="#">O7: Quality and Sustainability</a><br/> <a href="#">Publications</a><br/> <a href="#">Events</a><br/> <a href="#">Brochure</a></p>    |
| 14. Additional notes                                                  | Project number: 2017-1-DE01-KA203-00349                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Best Practice 4: EduHack



|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Topic/ Area                                               | Open to all HE subjects/disciplines<br>Continuous professional development                                                                                                                                                                                                                                                                                                                                                                                |
| 2. Title                                                     | EduHack                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3. Type of Best Practice                                     | Online course<br>Toolbox<br>Knowledge sharing platform                                                                                                                                                                                                                                                                                                                                                                                                    |
| 4. Date released                                             | Project duration 2017-2020                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 5. Partners/ network                                         | <ul style="list-style-type: none"> <li>• The Nexa Center for Internet &amp; Society, Italy (project coordinator)</li> <li>• Universidad Internacional de La Rioja – UNIR, Spain (partner)</li> <li>• Coventry University, United Kingdom (partner)</li> <li>• The Knowledge Innovation Centre (KIC), Malta (partner)</li> <li>• ATIT, Belgium (partner)</li> <li>• The list of the extended partner network can be found <a href="#">here</a>.</li> </ul> |
| 6. Level                                                     | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 7. Description of the methods/ approach and/or theories used | The project follows an open, collaborative, and active approach: networked and connected learning, participatory cultures, hybrid pedagogy and Open Education. Participants create digital artefacts of different                                                                                                                                                                                                                                         |

|                                                                       |                                                                                                                                                                                                 |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | kinds and develop a rich personal teaching-learning environment on the web.                                                                                                                     |
| 8. Purpose/Aim                                                        | EduHack is a capacity-building programme for university educators who wish to learn how to produce digitally supported learning experiences experimenting with innovative approaches and tools. |
| 9. Target group                                                       | Higher Education faculty & staff                                                                                                                                                                |
| 10. Evaluation (results) of its effectiveness (if applicable)         | The initiative is included in the official European Commission as part of a collection of effective digital educational resources for the Covid-19 period.                                      |
| 11. Overview of the lessons learned which are relevant to the project | N/A                                                                                                                                                                                             |
| 12. Web link                                                          | <a href="https://eduhack.eu/">https://eduhack.eu/</a>                                                                                                                                           |
| 13. References/ online sources                                        | <a href="#">EduHack online course</a><br><a href="#">EduHack Toolbox</a><br><a href="#">EduHack Knowledge Sharing Platform</a>                                                                  |
| 14. Additional notes                                                  | Project number: 2017-IT02-KA203-036854                                                                                                                                                          |

## Best Practice 5: Challenge based learning programme

|                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>European University Alliance |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. Topic/ Area                                                                                                     | Open to all HE subjects//disciplines<br>Challenge based learning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2. Title                                                                                                           | Challenge based learning programme                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3. Type of Best Practice                                                                                           | Course                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 4. Date released                                                                                                   | 2021 Spring semester                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 5. Partners/ network                                                                                               | Arqus European University Alliance ( <a href="https://www.arqus-alliance.eu/">https://www.arqus-alliance.eu/</a> )<br><br>Members:<br>University of Bergen, Norway ( <a href="https://www.uib.no/en">https://www.uib.no/en</a> )<br>University of Granada, Spain ( <a href="http://www.ugr.es">http://www.ugr.es</a> )<br>University of Graz, Austria ( <a href="https://www.uni-graz.at">https://www.uni-graz.at</a> )<br>Leipzig University, Germany ( <a href="http://www.uni-leipzig.de">http://www.uni-leipzig.de</a> )<br>University of Lyon, France ( <a href="http://www.universite-lyon.fr">http://www.universite-lyon.fr</a> )<br>University of Padua, Italy ( <a href="http://www.unipd.it">http://www.unipd.it</a> )<br>Vilnius University, Lithuania ( <a href="https://www.vu.lt">https://www.vu.lt</a> ) |
| 6. Level                                                                                                           | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 7. Description of the methods/ approach and/or theories used                                                       | <p>Arqus challenge-based learning programme is a multimodal programme of activities to pilot challenge-based learning opportunities.</p> <p>The course kicks off with an intensive five-day Winter School together with students from the seven Arqus universities of Bergen, Granada, Graz, Leipzig, Lyon, Padua, and Vilnius. In the Arqus Winter School, students get an overview of the climate risks facing European cities and how these risks might be governed. The winter school aims to engage students with interdisciplinary research ideas, skills and resources to enable them to develop group research projects on climate risk. It is a challenge-based approach to educating critically engaged European citizens.</p>                                                                                |

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <p>Contemporary universities have the power to make substantive contributions to discourses and models of active, engaged citizenship by developing interdisciplinary, challenge-based, and student-led pedagogies that empower students to critically reframe, reflect upon and address the challenges we face today.</p> <p>After the Winter School, students – in groups - run their own interdisciplinary challenge-based research projects in collaboration with local institutions. To support their work, the course combines international online learning modules, where students learn from leading experts and collaborate with students across Europe, with local sessions supervised by researchers in each of the Arqus universities. The end result is a research report.</p> <p>Short, recorded lectures and other resources are available on a common Moodle online learning platform. This includes the theme of climate risks, and methods and tips for research. Students are able to compare and review each other's projects across Arqus universities using Moodle platform.</p>                                                                                                                                                                                                                                                                                                                                        |
| 8. Purpose/Aim | <p>The course provides practical tools to engage with complex and urgent social, economic, environmental, and political challenges based on the combination of theory and practice.</p> <p>Students work together with other students and experts from across Europe, on the transformative and disruptive challenges of our time as part of the Arqus European University Alliance. Students are challenged with conducting their own interdisciplinary research projects into how grand challenges take shape in the seven cities within the Alliance. In 2021, students investigate the risks of climate change – from landslides to sea-level rise – and the role of institutions and citizens addressing these risks. In 2022, the topic will be diversity.</p> <p>The course is designed regarding four key principles: engaged citizenship, challenge-based research, transdisciplinary, student-led.</p> <p>By implementing this programme students work closely with companies, municipal authorities, academics and researchers to find solutions to the challenges their regions are facing.</p> <p>The programme is implemented in line with the Alliance objectives. The Alliance aims to share innovative and inclusive teaching and learning methodologies and staff development initiatives. "The Arqus Alliance aims to centre its efforts on enabling people: enabling a widely diverse student body and enhancing their</p> |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | learning experience; enabling a similarly diverse staff community and promoting their individual and collective professional development; enabling society at large by opening our doors and fully responding to the mission it has entrusted us."                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 9. Target group                                                       | Higher Education students                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 10. Evaluation (results) of its effectiveness (if applicable)         | The first program will be finalised with the Student-led Forum this autumn.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 11. Overview of the lessons learned which are relevant to the project | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 12. Web link                                                          | <a href="https://www.arqus-alliance.eu/">https://www.arqus-alliance.eu/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 13. References/ online sources                                        | MOOC on challenge-based learning<br>( <a href="https://www.arqusalliance.eu/action-lines/engaged-european-citizens">https://www.arqusalliance.eu/action-lines/engaged-european-citizens</a> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 14. Additional notes                                                  | <p>The challenge-based learning begins with the definition of the big idea that is explored in several ways. The most important thing is the attractiveness of this idea to students and society. Another step is the creation of essential questions and definition of challenge. Students come up with guiding questions, activities and resources used to the development of the successful solution. "The next step is analysis, which will set the foundation for the definition of the solution". The implementation begins and then the solution is agreed. The final step is the evaluation that includes the process testing and verification of the solution (Chanin et al., 2018). In this way, students plan their own learning.</p> <p>The general framework for challenge-based learning is provided by "The Challenge Institute":<br/><a href="https://www.challengebasedlearning.org/framework/">https://www.challengebasedlearning.org/framework/</a> (accessed on 6 September 2021).</p> <p>The implementation of challenge-based learning in the study process is growing. This pedagogical approach aims to construct the learning process based on real-life situations (Gudonienė et al., 2021, Gutiérrez-Martínez et al., 2021). Students develop tools and</p> |

strategies based on the solution of problems similar to what they may find in professional development (Gutiérrez-Martínez et al., 2021).

The challenge-based learning begins with the definition of the big idea that is explored in several ways. The most important thing is the attractiveness of this idea to students and society. Another step is the creation of essential questions and definition of challenge. Students come up with guiding questions, activities and resources used to the development of the successful solution. "The next step is analysis, which will set the foundation for the definition of the solution". The implementation begins then the solution is agreed. The final step is the evaluation that includes the process testing and verification of the solution (Chanin, et al., 2018). In this way, students plan their own learning.

According to Gutiérrez-Martínez et al. (2021) challenge-based learning is "a collaborative and active approach that promotes the students' collaboration with their peers, teachers, and experts within their communities and around the world."

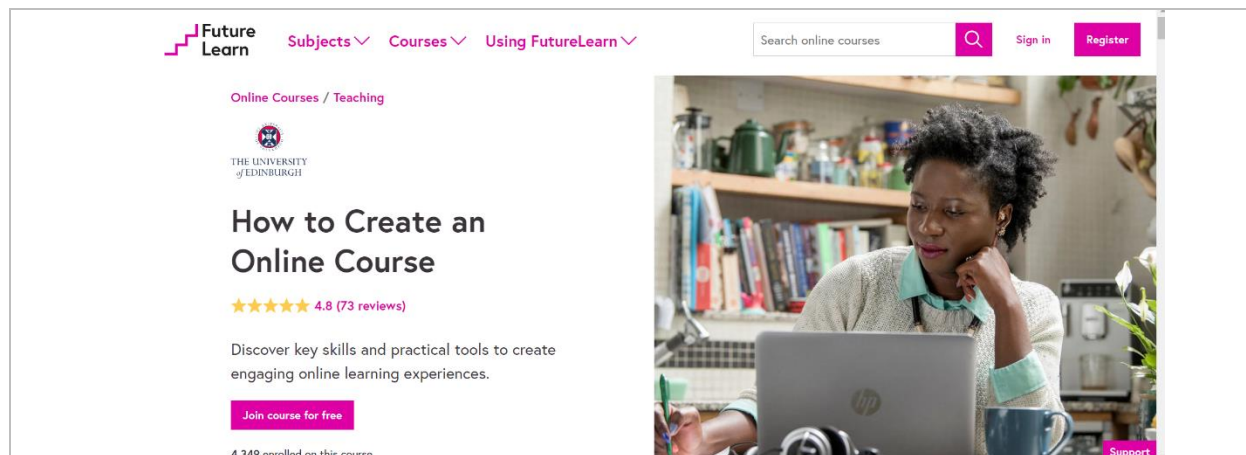
Students act "as experts on their area of study, while being confronted with the challenge of explaining, illustrating, and demonstrating the importance of their findings to the clients whose expertise did not necessarily include the full background of the students. This process leads the students to develop competences related to the reasoning for confronting the complexity of the multifaceted challenge, communication to transmit their discoveries, and to collaborate with the multiple components of the team, and digital transformation through the understanding and implementation of state-of-the-art automatization and analysis tools." (Gutiérrez-Martínez et al., 2021).

## Best Practice 6: OERu

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1. Topic/ Area                                                                    | Open to various HE subjects/disciplines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2. Title                                                                          | OERu (OERuniversitas)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3. Type of Best Practice                                                          | OERS<br>MOOCs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 4. Date released                                                                  | 2004                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5. Partners/ network                                                              | The extended list of partners can be found <a href="#">here</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6. Level                                                                          | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7. Description of the methods/ approach and/or theories used                      | <p>OERu is a platform that includes online courses following the principles of open and distributed education for all. Those interested can participate in two ways:</p> <ul style="list-style-type: none"> <li>• through a self-regulated learning method [self-directed interest]: they select concepts, topics, and activities during the course according to personal interests. You can sip and dip into sections of the course which you find interesting. Many learners in this category participate actively during all sessions of the course, however there are no minimum participation requirements for self-interest learners.</li> <li>• Through a more structured approach [learning for credit]: you can submit your work for formal assessment on a 'fee for service basis' from designated OERu partners. Successful students will earn academic transfer credit towards the specified OERu <a href="#">qualifications</a>.</li> </ul> |
| 8. Purpose/Aim                                                                    | OERu is an initiative that aims to make tertiary education accessible and inclusive, by providing HE courses to everyone interested around the world. Anyone can attend the available courses for free. There are also affordable, low-cost ways to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|                                                                       |                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | gain academic credit/ formal academic qualification, from recognised institutions.                                                                                                                                                                             |
| 9. Target group                                                       | Higher Education faculty & staff<br>University leadership teams<br>Higher Education students                                                                                                                                                                   |
| 10. Evaluation (results) of its effectiveness (if applicable)         | n/a                                                                                                                                                                                                                                                            |
| 11. Overview of the lessons learned which are relevant to the project | <ul style="list-style-type: none"> <li>• <a href="#">Investing in the Future of Open Educational Resources</a> - A study in why organisations invest in OERu</li> <li>• <a href="#">Learning in a Digital Age</a> - A study in OERu course creation</li> </ul> |
| 12. Web link                                                          | <a href="https://oeru.org/">https://oeru.org/</a>                                                                                                                                                                                                              |
| 13. References/ online sources                                        | N/A                                                                                                                                                                                                                                                            |
| 14. Additional notes                                                  | N/A                                                                                                                                                                                                                                                            |

## Best Practice 7: MOOC-“How to Create an Online Course”

|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1. Topic/ Area                                                                     | Open to all HE subjects/disciplines<br>Continuous professional development                                                                                                                                                                                                                                                                                                                                                                               |
| 2. Title                                                                           | How to Create an Online Course                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 3. Type of Best Practice                                                           | MOOC<br>Short training programme<br>OERs                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 4. Date released                                                                   | n/d                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 5. Partners/ network                                                               | FutureLearn platform<br>The University of Edinburgh                                                                                                                                                                                                                                                                                                                                                                                                      |
| 6. Level                                                                           | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7. Description of the methods/ approach and/or theories used                       | The course in the FutureLearn platform is available to anyone interested in learning how to create engaging online learning content. Following the principles of Massive Open Online Courses, anyone can attend the self-guided course at his/her own pace and time, learning through a mix of bite-sized videos, long- and short-form articles, audio, and practical activities. A community of learners is established through constant communication. |
| 8. Purpose/Aim                                                                     | The aim of this MOOC is to build instructors' skills in developing online learning materials that are open, accessible, and engaging.                                                                                                                                                                                                                                                                                                                    |
| 9. Target group                                                                    | Higher Education faculty & staff<br>Learning designers/educational technologists                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                       |                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10. Evaluation (results) of its effectiveness (if applicable)         | The participants of the courses can write reviews that work as an evaluation and provide feedback for improvement. All reviews are moderated to ensure they align with a <a href="#">code of conduct</a> . Only reviews that meet this code of conduct are published.                                                                   |
| 11. Overview of the lessons learned which are relevant to the project | Reviews from participants enrolled in the specific course can be found <a href="#">here</a> .<br>Insights into the rating system for the courses of the platform can be found <a href="#">here</a> .                                                                                                                                    |
| 12. Web link                                                          | <a href="https://www.futurelearn.com/courses/how-to-create-an-online-course">https://www.futurelearn.com/courses/how-to-create-an-online-course</a>                                                                                                                                                                                     |
| 13. References/ online sources                                        | n/a                                                                                                                                                                                                                                                                                                                                     |
| 14. Additional notes                                                  | <p>The duration of the course is 2 weeks with 3 hours average weekly study.</p> <p>You can enroll for free. Any additional payment is optional and provides:</p> <ul style="list-style-type: none"> <li>• Access to this course for as long as it's on FutureLearn</li> <li>• A print and digital Certificate of Achievement</li> </ul> |

## Best Practice 8: NOVAMOOC

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. Topic/ Area                                                                    | Open to various HE subjects/disciplines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2. Title                                                                          | NOVAMOOC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 3. Type of Best Practice                                                          | MOOCs/ Training programme<br>OERs<br>Handbook/Guidelines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 4. Date released                                                                  | Project duration: October 2015 – September 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. Partners/ network                                                              | West University of Timisoara <ul style="list-style-type: none"> <li>Principal investigator – Gabriela Grosseck</li> <li>Postdoctoral researchers: Ramona Bran and Laurentiu Tiru</li> <li>Senior researchers: Laura Malita, Vlad Chiriac and Carmen Holotescu</li> <li>PhD Students: Luiza Vlaicu (initially Mihai Adrian Vilcea), Alexandru Topirceanu (from November 2016 a postdoctoral researcher)</li> <li>Technical support: Dorin Neagoe</li> </ul>                                                                                                                                                                                                                              |
| 6. Level                                                                          | National (Romania)<br>Institutional (HE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 7. Description of the methods/ approach and/or theories used                      | <p>The project follows the principles of open and distributed education - accessible education for all. It sets out research for the improvement of the training of pre-university teachers, by carrying out a MOOC (massive open online courses) by a higher education institution which integrates open access educational resources and practices.</p> <p>The project was carried out over a period of two years (2015-2017). The work methodology and activities are divided into four stages. The consortium makes recommendations for the design, curriculum, and implementation of MOOCs, and they have published articles in specialized journals with high impact factors.</p> |
| 8. Purpose/Aim                                                                    | The main project objectives are the following:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | <ul style="list-style-type: none"> <li>• Realisation of a qualitative, prospective study regarding the development and implementation of MOOCs in universities towards opening new research directions in the educational area.</li> <li>• Implementation of a sociological quantitative research adapted to the particularities of the Romanian socio-cultural space.</li> <li>• Elaboration of recommendations regarding educational policies of MOOCs implementation in the context of higher education institutions.</li> <li>• Promoting examples of good practices and making pedagogical design recommendations in the valorization of MOOC resources.</li> <li>• Creating an academic network between the Romanian universities, based on mutual knowledge of the realities and problems encountered.</li> <li>• Publishing articles in specialized journals (BDI and/or ISI indexed) upon interpretation of research data.</li> <li>• Developing teachers' new abilities and competencies (transversal skills) after participating in a MOOC; the course offers the opportunity to keep up with modern applications, technologies, and open educational resources.</li> </ul> |
| 9. Target group                                                       | <p>Higher Education faculty &amp; staff<br/>University leadership teams<br/>Learning designers/educational technologists<br/>Higher Education students</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 10. Evaluation (results) of its effectiveness (if applicable)         | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 11. Overview of the lessons learned which are relevant to the project | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 12. Web link                                                          | <p>Project website: <a href="https://novamooc.uvt.ro/">https://novamooc.uvt.ro/</a><br/>MOOCs website: <a href="https://west-university-timisoara.teachable.com/">https://west-university-timisoara.teachable.com/</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 13. References/ online sources                                        | <p><a href="https://ibn.idsi.md/sites/default/files/imag_file/eL20_v3_171-Holotescu-et-al.pdf">https://ibn.idsi.md/sites/default/files/imag_file/eL20_v3_171-Holotescu-et-al.pdf</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14. Additional notes | The project results include: papers, presentations, workshops, webinars, MOOC courses, a <a href="#">recommendation guide about educational policy regarding open education</a> , a <a href="#">preliminary report</a> about university teachers' online training needs and the state-of-the-art for the final scientific event of the project, the International Conference " <a href="#">New Trends and Perspectives in Open Education</a> ". |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Best Practice 9: UniCampus

|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1. Topic/ Area                                                                     | Open to various HE subjects/disciplines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2. Title                                                                           | UniCampus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 3. Type of Best Practice                                                           | MOOCs<br>OERs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 4. Date released                                                                   | 2014                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 5. Partners/ network                                                               | University Politehnica Timisoara                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 6. Level                                                                           | National (Romania)<br>Institutional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 7. Description of the methods/ approach and/or theories used                       | Unicampus is an initiative of the ID / IFR and eLearning Center (CEL) of the Politehnica University of Timișoara (UPT) to develop the first MOOC (Massive Open Online Courses) in Romania, as a virtual online platform for free open courses, for everyone. The platform includes open courses on Moodle which can be used for training or integration in traditional courses, based on cMOOCs methodology. It is developed by UPT and is supported by CEL and it will be attended by other universities in Romania that want to contribute to |

|                                                                       |                                                                                                                                                                                   |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | the development of open education, by developing MOOC courses in Romanian, similar with those offered internationally by Coursera, EdX, FutureLearn etc.                          |
| 8. Purpose/Aim                                                        | The aim is to strengthen the recognition of Romanian universities and support quality, academic education, by promoting free access to knowledge.                                 |
| 9. Target group                                                       | Higher Education faculty & staff<br>University leadership teams<br>Learning designers/educational technologists<br>Higher Education students                                      |
| 10. Evaluation (results) of its effectiveness (if applicable)         | N/A                                                                                                                                                                               |
| 11. Overview of the lessons learned which are relevant to the project | N/A                                                                                                                                                                               |
| 12. Web link                                                          | <a href="https://unicampus.ro/">https://unicampus.ro/</a>                                                                                                                         |
| 13. References/ online sources                                        | <a href="https://ibn.idsi.md/sites/default/files/imag_file/eL20_v3_171-Holotescu-et-al.pdf">https://ibn.idsi.md/sites/default/files/imag_file/eL20_v3_171-Holotescu-et-al.pdf</a> |
| 14. Additional notes                                                  | N/A                                                                                                                                                                               |

## Best Practice 10: Microsoft Educator Center

|                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div style="text-align: center;"> <h1>Educator Center</h1>  </div> |                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1. Topic/ Area                                                                                                                                       | Open to various HE subjects/disciplines<br>Digital literacy<br>Continuous professional development                                                                                                                                                                                                                                                                                                             |
| 2. Title                                                                                                                                             | Microsoft Educator Center                                                                                                                                                                                                                                                                                                                                                                                      |
| 3. Type of Best Practice                                                                                                                             | OERs<br>Online training programmes<br>Social Network                                                                                                                                                                                                                                                                                                                                                           |
| 4. Date released                                                                                                                                     | n/d                                                                                                                                                                                                                                                                                                                                                                                                            |
| 5. Partners/ network                                                                                                                                 | Microsoft                                                                                                                                                                                                                                                                                                                                                                                                      |
| 6. Level                                                                                                                                             | International/EU                                                                                                                                                                                                                                                                                                                                                                                               |
| 7. Description of the methods/ approach and/or theories used                                                                                         | Microsoft Educator Center is a platform provided by Microsoft with free resources and courses on how to integrate digital technologies. It follows the principles of OERs, especially open and distributed learning for all. By completing courses and learning paths, digital badges are awarded. Once you've finished some of the courses, check out the Microsoft EDU page to connect with other educators. |
| 8. Purpose/Aim                                                                                                                                       | The aim is to provide opportunities to educators to expand their teaching repertoire at their own time and pace. Educators can attend courses and learn how to integrate technology and tools such as OneNote, from the free resources on digital education.                                                                                                                                                   |
| 9. Target group                                                                                                                                      | Higher Education faculty & staff<br>University leadership teams<br>Learning designers/educational technologists<br>Higher Education students                                                                                                                                                                                                                                                                   |
| 10. Evaluation (results) of its                                                                                                                      | N/A                                                                                                                                                                                                                                                                                                                                                                                                            |

|                                                                       |                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| effectiveness (if applicable)                                         |                                                                                                                                                                                                                                                                                                                          |
| 11. Overview of the lessons learned which are relevant to the project | N/A                                                                                                                                                                                                                                                                                                                      |
| 12. Web link                                                          | <a href="https://education.microsoft.com/en-us">https://education.microsoft.com/en-us</a>                                                                                                                                                                                                                                |
| 13. References/ online sources                                        | There is a wide variety of resources on how to implement digital learning. Some examples of best resources are the following:<br><a href="#">Feedback and Assessment Tools for Remote Learning</a><br><a href="#">Remote Learning Resources for Higher Education</a><br><a href="#">Engage and Amplify with Flipgrid</a> |
| 14. Additional notes                                                  | <a href="#">Microsoft Education blog</a>                                                                                                                                                                                                                                                                                 |



## Category 2: Digital & Online tools/software



## Best Practice 1: Virtual learning environment Moodle

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1. Topic/ Area                                                                    | Open to all HE subjects/disciplines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2. Title                                                                          | Virtual learning environment Moodle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 3. Type of Best Practice                                                          | Learning Management Systems                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 4. Date released                                                                  | 20 August 2002                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 5. Partners/ network                                                              | Network of Certified Service Providers ( <a href="https://moodle.com/services/">https://moodle.com/services/</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 6. Level                                                                          | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 7. Description of the methods/ approach and/or theories used                      | <p>The virtual learning environment Moodle is based on the social constructivist theory and principle of flexibility. Social constructivism focuses on social interaction that influences the growth of students' knowledge and enables the process of cognitive development. Students express their thoughts through interaction. The co-constructivist model of teaching is more closely related to Vygotsky. Vygotsky's theory is based on the following three major themes: social interaction, the "More Knowledgeable Other", and the "Zone of Proximal Development". Students perform social and individual functions through social interaction. The "More Knowledgeable Other" can be some with experience and more familiar with the subject. "Zone of Proximal Development" is the cognitive gap or difference between the students' ability to perform a task with the help of another or through collaboration and the time the learner performs the task independently (Passey et al., 2018).</p> |

|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8. Purpose/Aim                                                | <p>Moodle allows educators to create, manage, and support high quality eLearning processes. The necessary tools for course planning, design, development, collaboration, communication, and assessment are available. Using Moodle, educators can:</p> <ul style="list-style-type: none"> <li>• share study materials, notes, reading material, links to lectures or other resources</li> <li>• organise study activities such as uploading and evaluating assignments, creating tests</li> <li>• providing study guides, workshops or laboratory guides,</li> <li>• communicate with students, giving them feedback on their academic work</li> <li>• organise peer-to-peer communication</li> <li>• organise and manage exams, thesis defending, research development, etc.</li> </ul> <p>Moodle provides a collection of tools, set to support both blended learning approaches and fully online courses.</p>                                                                                                                                               |
| 9. Target group                                               | <p>Higher Education faculty &amp; staff<br/>University leadership teams<br/>Learning designers/educational technologists<br/>Higher Education students</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 10. Evaluation (results) of its effectiveness (if applicable) | <p>According to statistics, Moodle has over 292 million users in 242 countries including Spain, United States, Germany, Mexico, Brazil, India, France, Colombia, and Russian Federation. 345 sites (250 private) are registered from Lithuania. Moodle is available in over 120 languages.</p> <p>In 2021 Moodle was awarded as the most Innovative open-source management Platform (Acquisition International Magazine). Moodle Project is supported by over 80 certified Moodle Partners globally.</p> <p>Most project partner universities have used Moodle for distance education. Vilnius University has been using it since 2010. The number of study subjects using eLearning methods has increased significantly in recent years, for example 2406 study subjects in 2018-2019 academic years, 3599 in 2019-2020 and 3281 in 2020-2021 (not including 2020-2021 spring semester course). Moodle used at partner universities is adapted according to the university needs. Various plug-ins are installed to support distance learning activities.</p> |
| 11. Overview of the lessons learned which are                 | <p>Information related with teaching and learning has been stored, compiled, and monitored as digital data. Educational Data Mining and Learning Analytics are applied for data analysis and improvement of the study quality in the VLE.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| relevant to the project        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 12. Web link                   | <a href="https://moodle.org/">https://moodle.org/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 13. References/ online sources | <p>Examples of Moodle usage:</p> <ol style="list-style-type: none"> <li>1. Virtual Learning Environment of Vilnius University (<a href="https://emokymai.vu.lt/">https://emokymai.vu.lt/</a>- Login with Single Login account provided by Vilnius University) and University of Nicosia (<a href="https://courses.unic.ac.cy/pages/login.php">https://courses.unic.ac.cy/pages/login.php</a>)</li> <li>2. BlockNet courses are offered as part of the BlockNet ("BlockChain Network Online Education for interdisciplinary European Competence Transfer") Project (<a href="https://www.knf.vu.lt/en/blocknet#the-project">https://www.knf.vu.lt/en/blocknet#the-project</a>) funded by the European Commission in the context of the Erasmus+ program "KA2-Cooperation for Innovation and the Exchange of Good Practices. Strategic Partnerships for higher education" (grant no. 2018-1-LT01-KA203-047044)</li> </ol> <p><a href="https://atviri.emokymai.vu.lt/course/index.php?categoryid=17&amp;lang=en">https://atviri.emokymai.vu.lt/course/index.php?categoryid=17&amp;lang=en</a></p> <ol style="list-style-type: none"> <li>3. Open online course "Media and Information Literacy" provided by Vilnius University: <a href="https://atviri.emokymai.vu.lt/course/view.php?id=2">https://atviri.emokymai.vu.lt/course/view.php?id=2</a></li> <li>4. Lithuanian Research and Education Network (LITNET, <a href="https://www.litnet.lt/en/">https://www.litnet.lt/en/</a>) together with Kaunas University of Technology offer their own Moodle for Lithuania schools: <a href="https://vma.lm.lt/">https://vma.lm.lt/</a></li> <li>5. EU-funded Up2U (Up2University) project: <a href="https://learn.up2university.eu/">https://learn.up2university.eu/</a></li> <li>6. Lithuanian Association of Distance and e-Learning (LieDM): <a href="http://liedm.net/en/home-2/">http://liedm.net/en/home-2/</a></li> <li>7. National Association of Distance Education (NADE) established in July 1998. The aim of this association is to promote the creation of the Information Society of Lithuania by developing distance education and improving its quality. <a href="https://ndma.lt/en/about-nade/">https://ndma.lt/en/about-nade/</a></li> </ol> |
| 14. Additional notes           | <p>During the study process the teacher of the subject organises the work with the students and provides them with the content of the subject (module). The content may consist of the following parts:</p> <ul style="list-style-type: none"> <li>• the subject (module) description; subject (module) educational materials for the students (e.g. references to lecture recordings, presentations, works by other authors or short excerpts from works, etc.)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <ul style="list-style-type: none"> <li>• tasks for teaching/learning the subject/model and (or) assessing/self-assessing learning outcomes (independent work tasks, tests, etc.)</li> <li>• means of communication, cooperation and feedback for the teachers and the students studying the subject (module) (e.g. forums, calendars, etc.)</li> <li>• links to the distance learning platforms used</li> <li>• subject (module) organisational information (e.g., mid-term time, changes in study activities, etc.).</li> </ul> |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Best Practice 2: Communication platform Microsoft Teams

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 1. Topic/ Area                                                                    | Open to all HE subjects/disciplines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2. Title                                                                          | Communication platform Microsoft Teams                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 3. Type of Best Practice                                                          | Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4. Date released                                                                  | 14 March 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 5. Partners/ network                                                              | Microsoft                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6. Level                                                                          | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 7. Description of the methods/ approach and/or theories used                      | <p>Microsoft Teams (MS Teams) supports ideas of social constructivist theory and computer-supported collaborative learning process. The social constructivist focuses on the student's learning through the interaction in the channels. The computer-supported learning is based on the idea that knowledge building is a collaborative process achieved through conversation and shared ideas among students in a learning community. The collaborative learning is working together for two or more learners usually using a virtual learning environment or other groupware. The MS Teams software is used for communication purposes between a group of people doing the same work at the same time. MS</p> |

|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                               | Teams provides the possibility to exchange information, track and coordinate the progress of the entire work. This app contains tools for communication, collecting and updating documents, etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 8. Purpose/Aim                                                | <p>MS Teams is a collaboration app that helps the group of people to efficiently organise their distance learning, work and communicate in one place.</p> <p>The main features and benefits enable to:</p> <ul style="list-style-type: none"> <li>• assign, track, and grade class assignments</li> <li>• share screen or presentation in the real time</li> <li>• read conversations and chats in a more personalised form (immersive reader)</li> <li>• freely collaborate through infinite digital canvas (whiteboard)</li> <li>• make voice heard without disrupting other students (raise hand)</li> <li>• see the whole class in a new way for discussions and presentations</li> <li>• create custom educational experiences with Teams by integrating it into the virtual learning environment</li> <li>• blur meeting background, choosing a free image, or uploading your own</li> <li>• access student engagement data from a dashboard.</li> </ul> <p>MS Teams is used for providing formal content through synchronous sessions and asynchronous collaboration.</p> |
| 9. Target group                                               | <p>Higher Education faculty &amp; staff</p> <p>University leadership teams</p> <p>Learning designers/educational technologists</p> <p>Higher Education students</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 10. Evaluation (results) of its effectiveness (if applicable) | <p>MS Teams is widely used for organisation and implementation of distance learning activities and remote work at Vilnius University. The need for the app increased significantly during the pandemic (2019-2020).</p> <p>MS Teams is available in 181 countries in 44 languages. MS Teams is used in over 183.000 educational institutions. It has over 145 million daily active users in the world.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 11. Overview of the lessons learned                           | <p>In comparison with other collaboration and communication systems, such as Zoom, MS teams is preferred due to its functionality. Virtual learning environments can be integrated into MS Teams that are very important for</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>which are relevant to the project</p> | <p>educators. MS Teams provide more possibilities for managing journal entries, real-time analytics of students' progress and activities.</p> <p>Microsoft Office 365 and other apps are available on the platform.</p> <p>Microsoft Teams (MS Teams) is a collaboration app that helps large groups of people to efficiently organise their distance learning, work and communicate in one place.</p> <p>University faculty and students have free access to it.</p> <p>The features for classroom collaboration are the following:</p> <ul style="list-style-type: none"> <li>• Breakout rooms. Educators can divide their classes into small groups to facilitate discussions and teamwork.</li> <li>• Whiteboard.</li> </ul> <p>The documentation of MS Teams is available by the link <a href="https://docs.microsoft.com/en-us/microsoftteams">https://docs.microsoft.com/en-us/microsoftteams</a> (accessed on 19 July 2021).</p> |
| <p>12. Web link</p>                      | <p><a href="https://www.microsoft.com/en-ww/microsoft-teams/log-in">https://www.microsoft.com/en-ww/microsoft-teams/log-in</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>13. References/ online sources</p>    | <p>Records of trainings for the university staff: <a href="https://www.vu.lt/covid-19/destytojams/mokymai">https://www.vu.lt/covid-19/destytojams/mokymai</a></p> <p>MS Teams is used by the Vilnius University community for conducting lectures, seminars, workshops, training, conferences, and work.</p> <p>The example of the case study about the experience of the video conference is provided in the following article: Miseviciene, R., Rimavicius, V., &amp; Makackas, D. (2021). Transition to online education: research of video teaching challenges during covid 19 pandemic. Society. Integration. Education. <i>Proceedings of the International Scientific Conference</i>, 5, 170-178. doi: 10.17770/sie2021vol5.6148</p>                                                                                                                                                                                              |
| <p>14. Additional notes</p>              | <p>University faculties and students have free access to MS Teams. Everyone is able to conduct lectures, seminars or other sessions via video conferencing, provide individual consultations to students on the particular courses or their essays and theses, organise group work, facilitate the study process by using Microsoft Office 365 suite and other apps available on the platform. MS teams implements all the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|  |                                                                                                                                                                                                                                           |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | necessary tools for the high-quality remote interaction and work, while enabling monitoring during the learning process. Student work is performed in electronic form that makes it possible to follow the systemisation of the material. |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Best Practice 3: Video conferencing platform ZOOM

|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 1. Topic/ Area                                                                     | Open to all HE subjects/disciplines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 2. Title                                                                           | Video conferencing platform Zoom                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3. Type of Best Practice                                                           | Platform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4. Date released                                                                   | 25 January 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 5. Partners/ network                                                               | Zoom Video Communications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 6. Level                                                                           | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 7. Description of the methods/ approach and/or theories used                       | Cognitive theory of Multimedia Learning is based on the idea that individuals process information more deeply by presenting words and pictures together. The goal of cognitive theory of Multimedia Learning is to design instructional multimedia messages based on the optimal ways that people learn. Learning is an ongoing activity in which participants engage in knowledge construction, create mental representations of new instructional material presented to them. The teacher is a guide who facilitates by directing learners toward specific information they should pay attention to and assist learners in cognitively organising that information (Knoster, 2021). |
| 8. Purpose/Aim                                                                     | Zoom is used for the organisation of video and audio conferencing, collaboration and communication. During the Covid-19 pandemic the usage of it was increased significantly. Zoom is used as a tool for remote working, distance learning, and face-to-face social networking. The                                                                                                                                                                                                                                                                                                                                                                                                   |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | main Zoom features are the following: group video conferences, one-to-one meetings, screen sharing, recordings.                                                                                                                                                                                                                                                                                                                                                |
| 9. Target group                                                       | Higher Education faculty & staff<br>University leadership teams<br>Learning designers/educational technologists<br>Higher Education students                                                                                                                                                                                                                                                                                                                   |
| 10. Evaluation (results) of its effectiveness (if applicable)         | Zoom has over 350 million daily meeting participants.<br><br>Disadvantages using the free Zoom version are related to the participant number (host up to 100 participants) and limited meeting time (up to 40 minutes for group meetings and 30 hours' time limit per meeting for one-to-one meetings).                                                                                                                                                        |
| 11. Overview of the lessons learned which are relevant to the project | The popularity of Zoom is growing due to its reliability, cloud computing, flexible pricing, comprehensive functionality, and relatively user-friendly interface. However, security and privacy issues have emerged.                                                                                                                                                                                                                                           |
| 12. Web link                                                          | <a href="https://zoom.us/">https://zoom.us/</a>                                                                                                                                                                                                                                                                                                                                                                                                                |
| 13. References/ online sources                                        | Conferences at Vilnius University are held via Zoom: For example: <a href="https://www.conference.uki.vu.lt/">https://www.conference.uki.vu.lt/</a><br><br>Miseviciene, R., Rimavicius, V., & Makackas, D. (2021). Transition to online education: research of video teaching challenges during covid 19 pandemic. Society. Integration. Education. <i>Proceedings of the International Scientific Conference</i> , 5, 170-178. doi: 10.17770/sie2021vol5.6148 |
| 14. Additional notes                                                  | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## Best practice 4: Kahoot! game-based software

# Kahoot!

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Topic/ Area                                               | Open to all HE subjects/disciplines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2. Title                                                     | KAHOOT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 3. Type of Best Practice                                     | Game-based software<br>Digital assessment tool                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 4. Date released                                             | 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5. Partners/ network                                         | Kahoot! was founded by Johan Brand, Jamie Brooker and Morten Versvik in a joint project with the Norwegian University of Science and Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 6. Level                                                     | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 7. Description of the methods/ approach and/or theories used | Kahoot is based on the principles of gamification, a method that turns a gameless context (e.g., assessment in a subject) into a gameful one, using elements found in games (e.g., points, leaderboards, winning situations, teams, etc.). In this context, elements of behaviourism are also present while a collaborative approach can be found when students play in teams. Personalisation is also possible through spacing and testing: the content of the quiz is adapted to the student's level of understanding to increase the retention of knowledge while additional content is recommended for further practice. |
| 8. Purpose/Aim                                               | Kahoot! is used as a tool to assess students' understanding, mainly formatively, through a gamified approach. It is useful in reviewing the acquired knowledge and supporting students to actively participate in the process of online learning. It also keeps the motivation high and encourages competitive behaviour.                                                                                                                                                                                                                                                                                                    |
| 9. Target group                                              | Higher Education faculty & staff<br>Learning designers/educational technologists<br>Higher Education students                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

|                                                                       |                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10. Evaluation (results) of its effectiveness (if applicable)         | n/a                                                                                                                                                                                                                                                                                                                                         |
| 11. Overview of the lessons learned which are relevant to the project | Based on the results from a systematic literature review (Wang & Tahir, 2020), it is evident that Kahoot: <ul style="list-style-type: none"> <li>• has an overall positive effect on learning</li> <li>• can improve classroom dynamics</li> <li>• can potentially reduce anxiety</li> <li>• is positively perceived by students</li> </ul> |
| 12. Web link                                                          | <a href="https://kahoot.com/">https://kahoot.com/</a>                                                                                                                                                                                                                                                                                       |
| 13. References/ online sources                                        | Application of game-based software tools in online teaching environment (Nikolić et al, 2021, p. 91)<br><br>Wang A. I., & Tahir, R. (2020). The effect of using Kahoot! for learning – A literature review. <i>Computers &amp; Education</i> , 149. doi: 10.1016/j.compedu.2020.103818.                                                     |
| 14. Additional notes                                                  | N/A                                                                                                                                                                                                                                                                                                                                         |

## Best Practice 5: H5P

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1. Topic/ Area                                                                    | Open to all HE subjects/disciplines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2. Title                                                                          | H5P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 3. Type of Best Practice                                                          | Authoring tool/platform<br>Initiative                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 4. Date released                                                                  | 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 5. Partners/ network                                                              | H5P is a community driven project. <a href="#">Joubel</a> , a company co-founded by the open-source companies Amendor AS and Cerpus AS, is currently the driving force behind H5P, with a growing team of talented engineers dedicated to H5P. This team is called <a href="#">The H5P Core Team</a> and has extensive experience with development and design of open source ed-tech and is located in <a href="#">Tromsø</a> , Norway.                                                                                                    |
| 6. Level                                                                          | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 7. Description of the methods/ approach and/or theories used                      | H5P is an open-source community driven project for the creation of interactive content. To create content you can add the H5P plugin to your <a href="#">WordPress</a> , <a href="#">Moodle</a> or <a href="#">Drupal</a> site, or integrate it via LTI with <a href="#">Canvas</a> , <a href="#">Brightspace</a> , <a href="#">Blackboard</a> and <a href="#">many other VLEs</a> that supports LTI integration. There are currently more than 50 types of activities to cover various educational purposes (revision, assessment, etc.). |
| 8. Purpose/Aim                                                                    | <p>The aim of H5P is to allow everyone to create better interactive content faster, being able to easily share and reuse it. The goals are to:</p> <ul style="list-style-type: none"> <li>• attract a large worldwide community of skilled people who create, use, and share H5P-libraries with each other.</li> <li>• fFacilitate worldwide sharing of a large variety of HTML-based content and technologies.</li> </ul>                                                                                                                 |

|                                                                       |                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | <ul style="list-style-type: none"> <li>• make it easy for content creators to deliver and publish HTML content on different CMS, LMS, LCMS and other frameworks.</li> <li>• contribute to better HTML5 content by making it even easier to cooperate and reuse great web technology.</li> </ul> |
| 9. Target group                                                       | Higher Education faculty & staff<br>Learning designers/educational technologists<br>Higher Education students                                                                                                                                                                                   |
| 10. Evaluation (results) of its effectiveness (if applicable)         | N/A                                                                                                                                                                                                                                                                                             |
| 11. Overview of the lessons learned which are relevant to the project | N/A                                                                                                                                                                                                                                                                                             |
| 12. Web link                                                          | <a href="https://h5p.org/">https://h5p.org/</a>                                                                                                                                                                                                                                                 |
| 13. References/ online sources                                        | <a href="#">Examples and Downloads</a><br><a href="#">Documentation/Guides</a>                                                                                                                                                                                                                  |
| 14. Additional notes                                                  | An <a href="#">OER Hub</a> is under development. The relevant section will be integrated into the tool to allow users to easily access shared content.                                                                                                                                          |

## Best Practice 6: Livresq

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. Topic/ Area                                                                    | Open to various HE subjects/disciplines                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2. Title                                                                          | Livresq                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 3. Type of Best Practice                                                          | Online tool for content creation                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4. Date released                                                                  | 2014                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 5. Partners/ network                                                              | Livresq is a result of the implementation of a project financed from the Operational Program Competitiveness 2014-2020. The platform was developed by Ascendia S.A                                                                                                                                                                                                                                                                      |
| 6. Level                                                                          | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 7. Description of the methods/ approach and/or theories used                      | The platform allows the development and publication of educational materials in interactive digital format, without the need of programming knowledge. The user can access editable content already created by the LIVRESQ team. The user can import content made in Microsoft Powerpoint into LIVRESQ or can add the content to his personal projects or export each course as an HTML5 page or as SCORM to be integrated into an LMS. |
| 8. Purpose/Aim                                                                    | The platform aims to provide instructors/eLearning professionals with the opportunity to easily create eLearning courses and interactive lessons.                                                                                                                                                                                                                                                                                       |
| 9. Target group                                                                   | Higher Education faculty & staff<br>Learning designers/educational technologists<br>Higher Education students                                                                                                                                                                                                                                                                                                                           |
| 10. Evaluation (results) of its effectiveness (if applicable)                     | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 11. Overview of the lessons learned                                               | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|                                   |                                                                                                           |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------|
| which are relevant to the project |                                                                                                           |
| 12. Web link                      | <a href="https://livresq.com/en/">https://livresq.com/en/</a>                                             |
| 13. References/ online sources    | <a href="https://livresq.com/en/news/long-story-short/">https://livresq.com/en/news/long-story-short/</a> |
| 14. Additional notes              | N/A                                                                                                       |

## Best Practice 7: OBS (Open Broadcaster Software) with the Virtual Cam plugin

|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                         |
| 1. Topic/ Area                                                                     | Open to various HE subjects/disciplines<br>Theoretical subjects /Laboratory Classes                                                                                                                                                                                                                                                                                     |
| 2. Title                                                                           | OBS (Open Broadcaster Software) with the Virtual Cam plugin                                                                                                                                                                                                                                                                                                             |
| 3. Type of Best Practice                                                           | Digital recording tool                                                                                                                                                                                                                                                                                                                                                  |
| 4. Date released                                                                   | 2012                                                                                                                                                                                                                                                                                                                                                                    |
| 5. Partners/ network                                                               | n/d                                                                                                                                                                                                                                                                                                                                                                     |
| 6. Level                                                                           | International/EU                                                                                                                                                                                                                                                                                                                                                        |
| 7. Description of the methods/ approach and/or theories used                       | OBS is a free and open-source software to record and stream lectures. It is a powerful broadcasting software that enables full customization over your webcam feed. With OBS, you can combine a variety of sources onto your screen to navigate between resources more effectively without the need to share, unshare, and reshare your screen in meetings via the most |

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | <p>famous online video conferencing softwares (e.g. Zoom, Teams, Webex, Google Meet).</p> <p>The teacher creates digitally enriched lectures. S/he can teach theoretical presentations, explain and comment on a presentation, demonstrate procedures in a laboratory lesson, always combining multiple digital resources on screen. The lesson is recorded and so the teacher can self-evaluate and self-improve, while at the same time his enriched teaching becomes tempting. This practice achieves better management of teaching time, while other interactive and collaborative learning activities are added to the teaching.</p> <p>The Presentation Window of OBS is like an interactive PowerPoint slide, which you will set up for use as the video display. It provides a depth of creative opportunity depending on the vision of the presenter to create the visual experience of the lecture.</p> <p>It can be used in both asynchronous and synchronous teaching methods. Serves and strengthens traditional teaching, while it can be used in modern learning methods.</p> <p>It supports Objectivism Learning Theories but also with creative utilization, supports the learning theory of Constructionism.</p> |
| 8. Purpose/Aim                  | <p>The purpose of utilizing the OBS with the specific practice is: the creation of an optimal lecture, its enrichment with digital resources, the short and clear lecture, the better management of the teaching time for the development of further interactive activities, the individualized utilization of the teaching each student, the possibility of utilizing this teaching resource in both modern and asynchronous digital learning, as well as the continuous self-improvement and self-evaluation of the teacher at the pedagogical level.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 9. Target group                 | <p>Higher Education faculty &amp; staff</p> <p>Learning designers/educational technologists</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 10. Evaluation (results) of its | <p>From empirical data collected at the International Hellenic University, Greece, this practice causes students positive feedback during the assessment stage.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| effectiveness (if applicable)                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 11. Overview of the lessons learned which are relevant to the project | <p>It serves e-learning and supports both traditional methods and the adoption of didactic innovations.</p> <p>Is a free and open-source software, which is user-friendly and easy to learn, without requiring special technological skills.</p> <p>It has the ability to simultaneously manage a plurality of digital resources on the same screen where the teacher lectures.</p> <p>It is used in higher education and supports the particularly demanding conditions of teaching.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 12. Web link                                                          | <a href="https://obsproject.com/">https://obsproject.com/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 13. References/<br>online sources                                     | <p>Kaufmann, D. (2019). Using OBS to Create Video Lectures for Online Counseling Students. <i>Journal of Instructional Research</i>, 8(2). <a href="https://doi.org/10.9743/JIR.2019.8.2.7">https://doi.org/10.9743/JIR.2019.8.2.7</a></p> <p>Pardiñan, E., Loremia, R., Jr, A. N., Caligdong, G., Orlando Padal, Burgos, E., &amp; Lantikse, R. (2021). Remote Open Broadcaster Electronics: Alternative New Normal Learning Platform for Electronics Technology and Engineering. <i>Journal of educational and human resource development</i>, 9, 1–21.</p> <p>Kumar, A. (2021). <i>Designing the teaching learning process in teacher education using open broadcaster software</i>. <a href="https://www.eng.mcmaster.ca/sites/default/files/beginners_guide_to_using_obs_studio.pdf">https://www.eng.mcmaster.ca/sites/default/files/beginners_guide_to_using_obs_studio.pdf</a></p> <p><i>Using OBS with Zoom for Teaching   Online Education Technology</i>. (n.d.). Yale University. Retrieved July 23, 2021, from <a href="https://online-ed-tech.yale.edu/using-obs-zoom-teaching">https://online-ed-tech.yale.edu/using-obs-zoom-teaching</a></p> <p><i>Teaching Laboratory Classes</i>. (n.d.). Vanderbilt University. Retrieved July 23, 2021, from <a href="https://cft.vanderbilt.edu/guides-sub-pages/lab-classes/">https://cft.vanderbilt.edu/guides-sub-pages/lab-classes/</a></p> |

|                      |                                                                                                                                                                                                                                                                                         |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | <i>Beginners_guide_to_using_obs_studio_.pdf</i> . (n.d.). Retrieved July 23, 2021, from <a href="https://www.eng.mcmaster.ca/sites/default/files/beginners_guide_to_using_obs_studio_.pdf">https://www.eng.mcmaster.ca/sites/default/files/beginners_guide_to_using_obs_studio_.pdf</a> |
| 14. Additional notes | N/A                                                                                                                                                                                                                                                                                     |

## Best Practice 8: Mentimeter

|                                                                                    |                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                     |
| 1. Topic/ Area                                                                     | Open to all HE subjects/disciplines                                                                                                                                                                                                                                                                                                 |
| 2. Title                                                                           | Mentimeter                                                                                                                                                                                                                                                                                                                          |
| 3. Type of Best Practice                                                           | Online interactive presentation tool<br>Formative assessment                                                                                                                                                                                                                                                                        |
| 4. Date released                                                                   | 2014                                                                                                                                                                                                                                                                                                                                |
| 5. Partners/ network                                                               | Mentimeter company: the team can be found <a href="#">here</a> .                                                                                                                                                                                                                                                                    |
| 6. Level                                                                           | International/EU                                                                                                                                                                                                                                                                                                                    |
| 7. Description of the methods/ approach and/or theories used                       | Mentimeter can be used for live audience feedback, mood measurement or live polling and its utilization in the context of teaching.<br>Creates questions that can be open-ended (often resulting in word clouds – see Illustration 3 above) or true / false or multiple-choice questions. The data can be collected anonymously and |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | <p>they can also be saved for analysis, comparative purposes and educational research (results can be exported, for instance, into Excel format).</p> <p>Using Mentimeter encouraged class discussion, improved student engagement, helped them to pay attention in the class, increased knowledge retention, increase the student attendance, encouraged active learning, improved inclusion, improved participation and the classroom interaction.</p> <p>The anonymity could be advantageous to test the understanding of students in a more independent way. Collect and share Mentimeter results data, analyse students' performance.</p> <p>Based on the theory of Bloom's taxonomy, which indicates that 'understand' and 'apply' are the cognitive processes. by which thinkers encounter and work with knowledge.</p> |
| 8. Purpose/Aim                                                        | <p>The purpose of utilizing the Mentimeter with the specific practice is: encouraged class discussion, improved student engagement, helped them to pay attention in the class, increased knowledge retention, increased the student attendance, encouraged active learning, improved inclusion, improved participation and the classroom interaction. Makes teaching more interesting. With its proper use, it detects data that can be used in the context of formative evaluation.</p>                                                                                                                                                                                                                                                                                                                                       |
| 9. Target group                                                       | <p>Higher Education faculty &amp; staff</p> <p>Learning designers/educational technologists</p> <p>Higher Education students</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 10. Evaluation (results) of its effectiveness (if applicable)         | <p>From empirical data in our institution, this practice causes students positive feedback during the assessment stage.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 11. Overview of the lessons learned which are relevant to the project | <p>It serves e-learning supports both traditional methods and the adoption of didactic innovations.</p> <p>It is partially free and open software, which is user-friendly and easy to learn, without requiring special technological skills.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | <p>It is used in higher education and supports the particularly demanding conditions of teaching.</p> <p>Makes teaching interactive and more interesting.</p> <p>Enhances the learning outcome.</p> <p>Supports formative evaluation.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 12. Web link                      | <a href="https://www.mentimeter.com/">https://www.mentimeter.com/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 13. References/<br>online sources | <p>Mohin, M., Kunzwa, L., &amp; Patel, S. (2020). <i>Using Mentimeter to enhance learning and teaching in a large class</i>.<br/> <a href="https://doi.org/10.35542/osf.io/z628v">https://doi.org/10.35542/osf.io/z628v</a></p> <p>Rudolph, J. (2018). A brief review of Mentimeter – a student response system. <i>Journal of Applied Learning and Teaching</i>, 1(1), 35–37. <a href="https://doi.org/10.37074/jalt.2018.1.1.5">https://doi.org/10.37074/jalt.2018.1.1.5</a></p> <p>Duzhin, F. and Gustafsson, A. (2018) Machine Learning-Based App for SelfEvaluation of Teacher-Specific <i>Instructional Style and Tools</i>. <i>Education Sciences</i>, 8(1), pp.7.</p> <p>Hill, D. L., &amp; Fielden, K. (2018). <i>Using Mentimeter to promote student engagement and inclusion</i> [Conference or Workshop Item]. <i>Pedagogy in Practice seminar</i>, Fusehill Street, Carlisle, UK. University of Cumbria.<br/> <a href="https://www.cumbria.ac.uk/about/events/university-events/carlisle---fusehill-street/pedagogy-in-practice-seminar.php">https://www.cumbria.ac.uk/about/events/university-events/carlisle---fusehill-street/pedagogy-in-practice-seminar.php</a></p> <p>Wan, K., Cheung, G. and Chan, K. (2017) Prediction of Students' Use and Acceptance of Clickers by Learning Approaches: A Cross-Sectional Observational Study. <i>Education Sciences</i>, 7(4), pp.91.</p> <p><i>Features</i>. (n.d.). Mentimeter. Retrieved July 24, 2021, from <a href="https://www.mentimeter.com/features">https://www.mentimeter.com/features</a></p> |
| 14. Additional notes              | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## Best Practice 9: Embed 3D Models into Moodle (Wavefront Renderer)

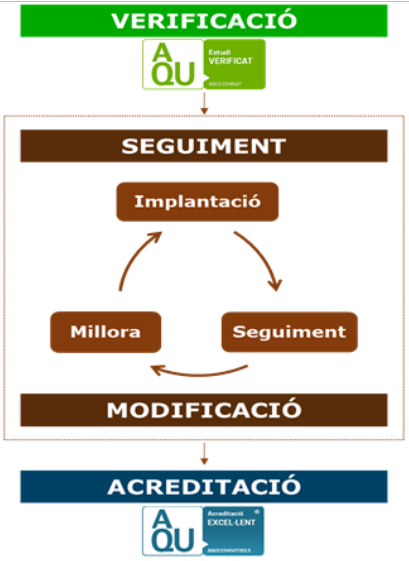
|                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1. Topic/ Area                                                                                                                                                       | Open to various HE subjects/disciplines<br>Laboratory classes<br>3D modelling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2. Title                                                                                                                                                             | Embed 3D Models into Moodle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3. Type of Best Practice                                                                                                                                             | LMS tool                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 4. Date released                                                                                                                                                     | 2017 latest release                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 5. Partners/ network                                                                                                                                                 | n/d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 6. Level                                                                                                                                                             | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 7. Description of the methods/ approach and/or theories used                                                                                                         | The most important advantage of Moodle, is that it can be accessed through a web browser and needs no additional software to be installed in the students' or teachers' computers. In the context of this logic it is proposed the integration of a 3D tool for visualization of 3D objects in e-learning resources of Moodle. This can be done through the "Wavefront" renderer plugin which allows users to display a 3D model in Moodle course. Through this way the course Moodle can use interactive 3D models. The course teacher is able to create, edit and delete the model views. Students within the course may be allowed to comment on the uploaded models. Such a representation of three-dimensional objects allows the |

|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                               | <p>user to “manage” the model - rotate, move, disassemble, perform cross-section, change colors, and etc. Provides the student an opportunity to operate the model of products independently - to turn, move, dismantle, and etc. Students see a display of the model of equipment or a product in 3D, on page of the textbook or lecture where they can read more about the design, get more information about the device and components (for example about the equipment which is considered in lectures); understand the task for designing more fully and correctly, and etc. They also have the ability to represent their results for preliminary assessment and discussion.</p> |
| 8. Purpose/Aim                                                | <p>The teacher is able to create, edit and delete the model views. Provides the student an opportunity to operate the model of products independently - to turn, move, dismantle, and etc. Allows the user to “manage” the model - rotate, move, disassemble, perform cross-section, change colors, and etc. Makes the course more interesting and easy to understand for the students. Makes the learning process more effective and productive. Expands information completeness of the course, increases the attractiveness and stimulates students’ interest in educational resources without requiring special training for both teachers and students.</p>                       |
| 9. Target group                                               | <p>Higher Education faculty &amp; staff<br/>Learning designers/educational technologists<br/>Higher Education students</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 10. Evaluation (results) of its effectiveness (if applicable) | <p>The approach is theoretical and there is no application data.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 11. Overview of the lessons learned which are                 | <p>It serves e-learning and supports the adoption of didactic innovations.<br/>This is a tool related to the popular platform of Moodle.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| relevant to the project           | <p>It is user-friendly and easy to learn, without requiring special technological skills.</p> <p>It could be used in higher education and supports the particularly demanding conditions of teaching.</p> <p>It supports visualization and is useful in objects that need it.</p> <p>Makes teaching interactive and more interesting.</p> <p>Enhances the learning outcome.</p> <p>Improves the quality of online teaching in HE.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 12. Web link                      | <a href="https://moodle.org/plugins/mod_wavefront">https://moodle.org/plugins/mod_wavefront</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 13. References/<br>online sources | <p>Songkram, N. (2017). Virtual smart classroom to enhance 21st century skills in learning and innovation for higher education learners. <i>2017 Tenth International Conference on Mobile Computing and Ubiquitous Network (ICMU)</i>, 1–4.<br/><a href="https://doi.org/10.23919/ICMU.2017.8330109">https://doi.org/10.23919/ICMU.2017.8330109</a></p> <p>Vatin, N. (2015). <i>Distance Learning System Moodle for Training of Specialists in the Field of Civil Engineering</i>   <i>Scientific.Net</i>. (n.d.). Retrieved July 29, 2021, from<br/><a href="https://www.scientific.net/AMM.725-726.1611">https://www.scientific.net/AMM.725-726.1611</a></p> <p>Khlaisang, J., &amp; Songkram, N. (2019). Designing a Virtual Learning Environment System for Teaching Twenty-First Century Skills to Higher Education Students in ASEAN. <i>Technology, Knowledge and Learning</i>, 24(1), 41–63. <a href="https://doi.org/10.1007/s10758-017-9310-7">https://doi.org/10.1007/s10758-017-9310-7</a></p> <p>Bravo, J., &amp; García-Magariño, I. (2015). A Methodology for Elaborating Activities for Higher Education in 3D Virtual Worlds. <i>Journal of Interactive Learning Research</i>, 26(1), 23–38.</p> <p>Malone, N., Minor, K., &amp; Kasha, R. (n.d.). <i>Crossing the Web-3D Divide Using Open Source Tools: Integrating Moodle and Second Life With SLOODLE to Create a Virtual Learning Environment</i>. 10.</p> |

|                      |                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | <p>Muradilloevich, I., Tanzilovch, O., Alimov, A., Baxodirovna, S., &amp; Engineering, B. (2020). Improvement of teaching methodology by using modeling programs of engineering education in higher education of Uzbekistan. <i>Journal of Critical Reviews</i>, 7, 81–88. <a href="https://doi.org/10.31838/jcr.07.14.12">https://doi.org/10.31838/jcr.07.14.12</a></p> |
| 14. Additional notes | N/A                                                                                                                                                                                                                                                                                                                                                                      |

## Best Practice 10: VSMA Dashboard

|                          |                                                                                     |
|--------------------------|-------------------------------------------------------------------------------------|
|                          |  |
| 1. Topic/ Area           | Quality Assurance                                                                   |
| 2. Title                 | VSMA Dashboard                                                                      |
| 3. Type of Best Practice | <p>Toolkit</p> <p>Handbook/Guidelines</p> <p>Digital Online Platform</p>            |

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4. Date released                                             | <p>The VSMA dashboard has been in operation since June 2016. We are currently working on its redesign, adaptation, and functional improvements. We will change platforms with the aim of both improving its attractiveness and usability.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5. Partners/ network                                         | <p>This Best Practice affects the whole University of Barcelona, together with the Quality Agency of Catalonia (AQU).</p> <p>Related with this Best Practices, and following the European ESG, the European University Association (EUA) is involved, as well as the State QA Agency (ANECA) and the European QA Association (ENQA).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 6. Level                                                     | <p>National/Regional and Institutional (HE) level</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 7. Description of the methods/ approach and/or theories used | <p>Within the framework of the European Higher Education Area, the continuous improvement of the quality of degrees is a priority. To achieve this continuous improvement, it is essential to have quality information and data. The implementation of the European Higher Education Area and its requirements in monitoring and improving the quality of the degrees made us reflect on how to organise, analyse, and provide information to its recipients in an agile and reliable way.</p> <p>The VSMA dashboard makes available to the quality commissions of the faculties the data and indicators necessary for the monitoring and accreditation of the degrees.</p> <p>The information comes both from transactional databases of the different business areas of the organisation and from external databases and files with specific information.</p> <p>To facilitate aggregated information, it is essential to implement a data governance policy that organises people, processes and technology through roles, responsibilities, policies, and</p> |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | <p>procedures that guarantee the accuracy, coherence and security of the data.</p> <p>To create the VSMA dashboard, the practitioners have worked in parallel on data governance, the creation and feeding of a data warehouse, and the design and commissioning of the final product, the dashboard itself.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 8. Purpose/Aim                                                        | <p>The final objective of the VSMA dashboard is to help the faculties in the process of continuous improvement of the quality of the degrees they teach, making the necessary, coherent, accurate and timely information available to them.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 9. Target group                                                       | <p>Higher Education faculty &amp; staff<br/>Learning designers/educational technologists<br/>University leadership teams</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 10. Evaluation (results) of its effectiveness (if applicable)         | <p>To ensure that the VSMA dashboard meets its objectives, we continually review the requirements of the AQU Catalunya (agency responsible for accreditation of degrees in Catalan universities) in terms of data and indicators for degrees monitoring and accreditation. We incorporate into the VSMA dashboard all the new data and indicators required so that the faculties can correctly prepare the required reports.</p>                                                                                                                                                                                                                                                                                                                               |
| 11. Overview of the lessons learned which are relevant to the project | <p>It allows for a cultural change in the organisation, making those responsible for the faculties and degrees understand that continuous improvement is not a requirement but a necessity. The tool makes them understand that to improve we need to measure and to measure we need reliable and timely data.</p> <p>Those responsible for the degrees have a single, secure and reliable source of data for the purposes of preparing their monitoring and accreditation reports.</p> <p>All the faculties of the UB use the VSMA dashboard to prepare these reports. Previously they had to look for the information in different sources. The regular use of the VSMS dashboard is fully extended in the organisation and has become a reference tool.</p> |

|                                   |                                                                                                                                                                                                                                                               |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | Those responsible for the degrees need specific data and indicators, in a specific format, to prepare the reports required by quality agencies for monitoring and accreditation purposes. The VSMA dashboard gives them exactly what they need to build them. |
| 12. Web link                      | <a href="https://www.ub.edu/indicadorsVSMA/">https://www.ub.edu/indicadorsVSMA/</a>                                                                                                                                                                           |
| 13. References/<br>online sources | N/A                                                                                                                                                                                                                                                           |
| 14. Additional notes              | <p>Details of the contact person:</p> <p>Name: Fermín Osuna-Sánchez<br/> Position: UB Policy and Quality Agency, Head of the Organisation and Quality Service<br/> Tel: +34 934011620<br/> Email: min_osuna@ub.edu</p>                                        |

## Best Practice 11: Learning Designer, a tool for didactic design and analysis of e-learning

|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 1. Topic/ Area                                                                     | Open to all HE subjects/disciplines<br>Learning design/pedagogy of online teaching                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 2. Title                                                                           | Learning Designer, a tool for didactic design and analysis of e-learning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3. Type of Best Practice                                                           | Online Tool for visually structure approach to online learning design and construct a techno-pedagogical framework                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 4. Date released                                                                   | 2017-2021, Version 2.45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 5. Partners/ network                                                               | FutureLearn platform<br>UCL (University College London)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 6. Level                                                                           | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 7. Description of the methods/ approach and/or theories used                       | <p>The Learning Designer helps lecturers design teaching and learning activities using the six learning types from the Conversational Framework. It also provides some feedback on your design by showing you the proportion of each of the different learning types in your eventual design in the form of a pie chart, so you can see where you might need to make adjustments.</p> <p>As you design each step of the session you can specify the type of learning activity, duration, group size, teacher presence/or not, online/or not, synchronous/or not, and any resources to be</p> |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | <p>attached. The 'designed time' is tracked, along with pie charts and bar charts showing the nature of the learning experience you're designing, in the Analysis tab. This helps you review and revise your design.</p> <p>Through this process would encourage teacher-designers to focus on the pedagogically pertinent aspects of their learning designs and increase the level of analytic support available to them.</p> <p>Based on the theoretical approach of UCL Learning Designer tool.</p>         |
| 8. Purpose/Aim                                                        | <p>The purpose of utilizing the Learning Designer with the specific practice is:</p> <p>helps lecturers design teaching and learning activities, to review and revise the teaching design, encourages lecturer-designers to focus on the pedagogically pertinent aspects, analyse the student's learning experience, improves the quality of university teaching and is intended to be a tool to develop and support a knowledge-building teaching professional community.</p>                                 |
| 9. Target group                                                       | <p>Higher Education faculty &amp; staff</p> <p>Learning designers/educational technologists</p>                                                                                                                                                                                                                                                                                                                                                                                                                |
| 10. Evaluation (results) of its effectiveness (if applicable)         | <p>From empirical data in the institution, this practice causes students positive feedback during the assessment stage.</p>                                                                                                                                                                                                                                                                                                                                                                                    |
| 11. Overview of the lessons learned which are relevant to the project | <p>It serves e-learning and supports both traditional methods and the adoption of didactic innovations.</p> <p>It is partially free and open software, which is user-friendly and easy to learn, without requiring special technological skills.</p> <p>It is used in higher education and supports the particularly demanding conditions of teaching.</p> <p>Makes teaching interactive and more interesting.</p> <p>Enhances the learning outcome.</p> <p>Improves the quality of online teaching in HE.</p> |

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12. Web link                      | <a href="https://www.ucl.ac.uk/learning-designer/">https://www.ucl.ac.uk/learning-designer/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 13. References/<br>online sources | <p>Bower, M., Craft, B., Laurillard, D., &amp; Masterman, L. (2011). <i>Using the Learning Designer to develop a conceptual framework for linking learning design tools and system</i>. 61–71.</p> <p>Laurillard, D., Kennedy, E., Charlton, P., Wild, J., &amp; Dimakopoulos, D. (2018). Using technology to develop teachers as designers of TEL: Evaluating the learning designer. <i>British Journal of Educational Technology</i>, 49(6), 1044–1058. <a href="https://doi.org/10.1111/bjet.12697">https://doi.org/10.1111/bjet.12697</a></p> <p><i>Projects-2017-projects-Exploring-learning-designer-roles.pdf</i>. (n.d.). Retrieved July 25, 2021, from <a href="https://itali.uq.edu.au/files/3849/Projects-2017-projects-Exploring-learning-designer-roles.pdf">https://itali.uq.edu.au/files/3849/Projects-2017-projects-Exploring-learning-designer-roles.pdf</a></p> <p><i>Learning Designer User Guide   UCL IOE Learning Technologies Unit</i>. (n.d.). Retrieved July 25, 2021, from <a href="https://blogs.ucl.ac.uk/itu/projects/learning-designer-help/">https://blogs.ucl.ac.uk/itu/projects/learning-designer-help/</a></p> <p><i>A new tool to help teachers as digital learning designers</i>. (n.d.). Retrieved July 25, 2021, from <a href="https://www.bera.ac.uk/blog/a-new-tool-to-help-teachers-as-digital-learning-designers">https://www.bera.ac.uk/blog/a-new-tool-to-help-teachers-as-digital-learning-designers</a></p> |
| 14. Additional notes              | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Best Practice 12: The Digital Competence Wheel



|                                                               |                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Topic/ Area                                                | Digital skills                                                                                                                                                                                                                                                                                                                                                                          |
| 2. Title                                                      | The Digital Competence Wheel                                                                                                                                                                                                                                                                                                                                                            |
| 3. Type of Best Practice                                      | Online Testing Tool That Maps Digital Competences                                                                                                                                                                                                                                                                                                                                       |
| 4. Date released                                              | 2015                                                                                                                                                                                                                                                                                                                                                                                    |
| 5. Partners/ network                                          | The Digital Competence Wheel has been developed by the <a href="#">Center for Digital Dannelsen</a> .                                                                                                                                                                                                                                                                                   |
| 6. Level                                                      | International/EU                                                                                                                                                                                                                                                                                                                                                                        |
| 7. Description of the methods/ approach and/or theories used  | The Digital Competence Wheel is theoretically based on a major EU research project, DIGCOMP, deriving from the European Parliament's inclusion of digital competence, as one of the eight core competences for lifelong learning.                                                                                                                                                       |
| 8. Purpose/Aim                                                | The purpose of the Digital Competence Wheel is to support the development of digital competences. It provides an overview of the digital competences and which ones need to be improved, as well as concrete inspiration for how to improve the most relevant digital competences. This way, it can be used both for guidance and self-evaluation of school staff's digital competences |
| 9. Target group                                               | Higher Education faculty & staff<br>University leadership teams<br>Learning designers/educational technologists<br>Higher Education students                                                                                                                                                                                                                                            |
| 10. Evaluation (results) of its effectiveness (if applicable) | N/A                                                                                                                                                                                                                                                                                                                                                                                     |

|                                                                       |                                                                                   |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 11. Overview of the lessons learned which are relevant to the project | N/A                                                                               |
| 12. Web link                                                          | <a href="https://digital-competence.eu/dc/">https://digital-competence.eu/dc/</a> |
| 13. References/<br>online sources                                     | <a href="#">Tutorial</a>                                                          |
| 14. Additional notes                                                  | N/A                                                                               |

## Category 3: Open Educational Resources [OERs]



## Best Practice 1: Virtual Labs by MERLOT & SkillsCommons

|                                                                                    |                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                            |
| 1. Topic/ Area                                                                     | STEM (Science, Technology, Engineering, and Mathematics/ including Chemistry, Biology, Physics, Earth/Environmental studies)<br>Laboratory Classes                                                                                                                                         |
| 2. Title                                                                           | Virtual Labs                                                                                                                                                                                                                                                                               |
| 3. Type of Best Practice                                                           | Digital tools<br>Virtual laboratories<br>OERs                                                                                                                                                                                                                                              |
| 4. Date released                                                                   | n/d                                                                                                                                                                                                                                                                                        |
| 5. Partners/ network                                                               | MERLOT<br>SkillsCommons<br>The complete list of providers can be found <a href="#">here</a> .                                                                                                                                                                                              |
| 6. Level                                                                           | International/EU                                                                                                                                                                                                                                                                           |
| 7. Description of the methods/ approach and/or theories used                       | Through virtual labs, HEIs can adopt an inquiry-based teaching approach in the online/distance learning programmes, to engage students in learning through active participation rather than passive observation.                                                                           |
| 8. Purpose/Aim                                                                     | The aim of this “one-stop-shop” platform is to provide all interested parties (mainly HE instructors, staff, and students specialised in STEM) with a collection of free and fee-based virtual labs, simulations, and best practices, to engage with experiments in the respective fields. |
| 9. Target group                                                                    | Higher Education faculty & staff<br>Learning designers/educational technologists<br>Higher Education students                                                                                                                                                                              |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10. Evaluation (results) of its effectiveness (if applicable)         | Through virtual labs and web-based simulations, emphasis is given on integrating inquiry-based learning into the science curricula. Students benefit from the hands-on experience.<br>A variety of case studies can be found <a href="#">here</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 11. Overview of the lessons learned which are relevant to the project | Based on findings from multiple studies conducted, it is evident that: <ul style="list-style-type: none"> <li>• students benefit from designing and interpreting their experiments (Desharnais &amp; Limson, 2007)</li> <li>• students develop their scientific thinking and critical skills through engaging and open-ended learning and assessment activities (Bell, 1999)</li> <li>• virtual labs promote active learning and can replace/improve the typical, physical, labs (Rivera, 2014)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 12. Web link                                                          | <a href="https://virtuallabs.merlot.org/">https://virtuallabs.merlot.org/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 13. References/ online sources                                        | <p>Bell, J. (1999). The Biology Labs On-Line Project: Producing Educational Simulations That Promote Active Learning. <i>Interactive Multimedia Electronic Journal of Computer-Enhanced Learning</i>, 1(2). Available at: <a href="http://imej.wfu.edu/articles/1999/2/01/index.asp">http://imej.wfu.edu/articles/1999/2/01/index.asp</a></p> <p>Desharnais, R. A. &amp; Limson, M. (2007). Designing and implementing virtual courseware to promote inquiry-based learning. <i>MERLOT Journal of Online Learning and Teaching</i>, 3(1). Available at: <a href="https://jolt.merlot.org/vol3no1/desharnais.htm">https://jolt.merlot.org/vol3no1/desharnais.htm</a></p> <p>Rivera, C. (2014). For some students, virtual labs replace hands-on science experiments. Available at: <a href="https://www.latimes.com/local/education/la-me-college-labs-20141115-story.html">https://www.latimes.com/local/education/la-me-college-labs-20141115-story.html</a></p> |
| 14. Additional notes                                                  | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## Best Practice 2: Europeana



|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Topic/ Area                                                | Art, History, Culture, Music, Philosophy, Environment, Diversity, Inclusion, Languages                                                                                                                                                                                                                                                                                                              |
| 2. Title                                                      | Europeana                                                                                                                                                                                                                                                                                                                                                                                           |
| 3. Type of Best Practice                                      | Web portal<br>Online platform/repository<br>OERs                                                                                                                                                                                                                                                                                                                                                    |
| 4. Date released                                              | 2008                                                                                                                                                                                                                                                                                                                                                                                                |
| 5. Partners/ network                                          | Europeana Foundation. The staff list can be found <a href="#">here</a> and the partnerships <a href="#">here</a> .                                                                                                                                                                                                                                                                                  |
| 6. Level                                                      | International/EU                                                                                                                                                                                                                                                                                                                                                                                    |
| 7. Description of the methods/ approach and/or theories used  | Europeana is a web portal created by the European Union with digitised cultural heritage collections of more than 3,000 institutions across Europe. Working with thousands of European archives, libraries and museums, the portal offers a wide collection of cultural heritage for enjoyment, education, and research. The website provides access to millions of books, music, artworks and more |
| 8. Purpose/Aim                                                | The aim of Europeana is to develop expertise, tools and policies that empower digital change and partnerships that foster innovation. The extended description of their mission can be found <a href="#">here</a> .                                                                                                                                                                                 |
| 9. Target group                                               | Higher Education faculty & staff<br>Higher Education students                                                                                                                                                                                                                                                                                                                                       |
| 10. Evaluation (results) of its effectiveness (if applicable) | In January 2011, the European Commission released its 'New Renaissance' report where it is being stated that Europeana should be 'the central reference report for Europe's online cultural heritage'.                                                                                                                                                                                              |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11. Overview of the lessons learned which are relevant to the project | There are currently more than 58 million digital objects - books, music, artworks and more – that can be accessed from anyone through sophisticated search and filter tools, along with many themed collections, exhibitions, galleries, and blogs. Cultural heritage material can be incorporated into almost any educational topic/subject/field, in various ways to (Markowicz, 2019). |
| 12. Web link                                                          | <a href="http://europeana.eu/">http://europeana.eu/</a>                                                                                                                                                                                                                                                                                                                                   |
| 13. References/<br>online sources                                     | <a href="#">Related projects</a><br>Markowicz, R. & Daley, B. (2019). <i>Three Lessons from a Europeana User Group Teacher</i> . Europeanapro. Available at:<br><a href="https://pro.europeana.eu/post/three-lessons-from-a-europeana-user-group-teacher">https://pro.europeana.eu/post/three-lessons-from-a-europeana-user-group-teacher</a>                                             |
| 14. Additional notes                                                  | <a href="#">Historiana</a> is a similar repository for educators in Europe, containing historical resources and content for in-classroom use. There is an extra session for building online activities.                                                                                                                                                                                   |



## Category 4: Guidelines for teaching, learning, and assessment



## Best Practice 1: onTrain

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1. Topic/ Area                                                                    | Open to all HE subjects/disciplines<br>Continuous professional development                                                                                                                                                                                                                                                                                                                                                                          |
| 2. Title                                                                          | Online training: the treasure within, an Erasmus+ project                                                                                                                                                                                                                                                                                                                                                                                           |
| 3. Type of Best Practice                                                          | Handbook/ Guidelines<br>Online learning course and activities                                                                                                                                                                                                                                                                                                                                                                                       |
| 4. Date released                                                                  | Project duration November 2018 - October 2020                                                                                                                                                                                                                                                                                                                                                                                                       |
| 5. Partners/ network                                                              | <ul style="list-style-type: none"> <li>• The Universitat Jaume I (UJI) – Spain</li> <li>• The Friedrich Alexander University Erlangen-Nuremberg – Germany</li> <li>• Università delle LiberEtà – Italy,</li> <li>• Group for European Integration – Romania, Learnmera Oy - Finland</li> </ul>                                                                                                                                                      |
| 6. Level                                                                          | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 7. Description of the methods/ approach and/or theories used                      | The onTrain project's consortium has developed two main products: (1) a guide-reference for the teacher or facilitator at European level that will include 30 aspects to take into account in quality online teaching in adults and the elderly; (2) a catalog of activities that European institutions can use for effective learning. Those interested can access the material and learn via a self-directed, asynchronous mode.                  |
| 8. Purpose/Aim                                                                    | <p>There are three main aims:</p> <ul style="list-style-type: none"> <li>• to provide the trainers with low ICT skills and technological pedagogies with the appropriate tools (a learners' coursebook and an online course) to learn by themselves the application of technology enhanced education methods, techniques, and tools, so that they can acquire the necessary skills and competences to become successful online trainers.</li> </ul> |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | <ul style="list-style-type: none"> <li>to support these trainers and facilitate the transferability of the skills and competences learnt to their own subject. Those skills include the use of technology for collaboration, creativity, problem solving, teamwork, etc.</li> <li>to provide an online tool (as online service), so the trainers can use the lessons learnt in their own teaching activities.</li> </ul> |
| 9. Target group                                                       | Higher Education faculty & staff                                                                                                                                                                                                                                                                                                                                                                                         |
| 10. Evaluation (results) of its effectiveness (if applicable)         | N/A                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 11. Overview of the lessons learned which are relevant to the project | The content of the online platform can be useful for the trainers, if they wish to apply online teaching in their courses and educational activities on adults and seniors. They can learn the basic concepts about eLearning, how to apply educational methods, some practices and activities.                                                                                                                          |
| 12. Web link                                                          | <a href="https://ontrain.eu/">https://ontrain.eu/</a>                                                                                                                                                                                                                                                                                                                                                                    |
| 13. References/ online sources                                        | onTrain activities: <a href="https://activities.ontrain.eu/en/ontrain/">https://activities.ontrain.eu/en/ontrain/</a><br>Publication on EPAL: <a href="https://epale.ec.europa.eu/en/blog/ontrain-online-training-treasure-within">https://epale.ec.europa.eu/en/blog/ontrain-online-training-treasure-within</a>                                                                                                        |
| 14. Additional notes                                                  | N/A                                                                                                                                                                                                                                                                                                                                                                                                                      |

## Best Practice 2: Assessing with ePortfolios to encourage independent learning

|                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div style="display: flex; justify-content: space-around; align-items: center;">   </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1. Topic/ Area                                                                                                                                                                                                                                               | Open to all HE subjects/disciplines<br>Online assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2. Title                                                                                                                                                                                                                                                     | Assessing with ePortfolios to encourage independent learning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3. Type of Best Practice                                                                                                                                                                                                                                     | Assessment (peer assessment)<br>Learning activity / proposed tool "Google Site"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 4. Date released                                                                                                                                                                                                                                             | n/d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 5. Partners/ network                                                                                                                                                                                                                                         | Experiential knowledge from application cases at the International Hellenic University, Department of Early Childhood Education & Care, Greece.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 6. Level                                                                                                                                                                                                                                                     | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 7. Description of the methods/ approach and/or theories used                                                                                                                                                                                                 | <p>An ePortfolio is a digitised collection of artefacts including demonstrations, resources, and accomplishments, a digital repository for a range of learning materials, including those produced for course-based assessment., that represent an individual or group.</p> <p>Assessment is integrated into the learning process. It can be the field for peer-assessment processes. Students can engage both individually and collaboratively in the ePortfolio project.</p> <p>Constitute ongoing, evidence-based assessment products that display a student's performance throughout a course or degree program. Acts as a sustainable assessment that enables students to identify their learning, make judgments about it and prepare</p> |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | <p>themselves for future learning. Is a tool that connects students' work in any object related to their personal perspectives. Enables students to present themselves in a number of ways, empowering them as learners</p> <p>Encourages a self-directed, individualised approach to learning that students can use throughout their lives. Integrates and solidify learning through reflection, and showcase achievement to potential employers. It is recommended to use the free and open on-line tool of Google Site.</p>                                                                                                                                            |
| 8. Purpose/Aim                                                        | <p>Facilitates, documents, and archives student learning to clarify their educational goals.</p> <p>Acts as a sustainable assessment that enables students to identify their learning, make judgments about it and prepare themselves for future learning.</p> <p>Provide a site for feedback.</p> <p>Enhances activation, initiative, extroversion and interaction.</p> <p>Prepares and cultivates the appropriate culture for the digital labor market.</p> <p>Encourages students to be self-directed and take responsibility for their own learning and assessment.</p> <p>Allows students to make connections between tacit knowledge and constructed knowledge.</p> |
| 9. Target group                                                       | <p>Higher Education faculty &amp; staff</p> <p>Higher Education students</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 10. Evaluation (results) of its effectiveness (if applicable)         | <p>From empirical data in our institution, this practice causes students positive feedback during the assessment stage.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 11. Overview of the lessons learned which are relevant to the project | <p>It serves e-learning and supports the adoption of didactic innovations.</p> <p>It is a free and open software, which is user-friendly and easy to learn, without requiring special technological skills.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | <p>It could be used in higher education and supports the particularly demanding conditions of teaching.</p> <p>Makes teaching interactive and more interesting.</p> <p>Improves activation, initiative, extroversion and interaction.</p> <p>Enhances the learning outcome.</p> <p>Improves the quality of online teaching in HE.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 12. Web link                      | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 13. References/<br>online sources | <p>Hussain, R. M. R., &amp; Ng, H. Z. (2010). <i>A case-study: The adoption, adaptation and transformation of Facebook as eportfolio in Higher Education</i>. 236–246.<br/><a href="https://www.learntechlib.org/primary/p/34179/">https://www.learntechlib.org/primary/p/34179/</a></p> <p>Farrell, O., (2020). From Portafoglio to Eportfolio: The Evolution of Portfolio in Higher Education, <i>Journal of Interactive Media in Education</i>, 2020(1), p.19. DOI: <a href="http://doi.org/10.5334/jime.574">http://doi.org/10.5334/jime.574</a></p> <p>Hallam, G., &amp; Creagh, T. (2010). ePortfolio use by university students in Australia: A review of the Australian ePortfolio Project. <i>Higher Education Research &amp; Development</i>, 29(2), 179–193.<br/><a href="https://doi.org/10.1080/07294360903510582">https://doi.org/10.1080/07294360903510582</a></p> <p>Hussain, R. M. R., &amp; Ng, H. Z. (2010). <i>A case-study: The adoption, adaptation and transformation of Facebook as eportfolio in Higher Education</i>. 236–246.<br/><a href="https://www.learntechlib.org/primary/p/34179/">https://www.learntechlib.org/primary/p/34179/</a></p> <p>Peacock, S., Gordon, L., Murray, S., Morss, K., &amp; Dunlop, G. (2010). Tutor response to implementing an ePortfolio to support learning and personal development in further and higher education institutions in Scotland. <i>British Journal of Educational Technology</i>, 41(5), 827–851. <a href="https://doi.org/10.1111/j.1467-8535.2009.00986.x">https://doi.org/10.1111/j.1467-8535.2009.00986.x</a></p> <p>Pitts, W., &amp; Lehner-Quam, A. (2019). Engaging the Framework for</p> |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | <p>Information Literacy for Higher Education as a Lens for Assessment in an ePortfolio Social Pedagogy Ecosystem for Science Teacher Education. <i>International Journal of EPortfolio</i>, 9(1), 29–44.</p> <p>Reese, M., &amp; Levy, R. (2009). <i>Assessing the Future: E-Portfolio Trends, Uses, and Options in Higher Education</i>.<br/> <a href="https://jscholarship.library.jhu.edu/handle/1774.2/33329">https://jscholarship.library.jhu.edu/handle/1774.2/33329</a></p> <p>Roberts, P., Maor, D., &amp; Herrington, J. (2016). ePortfolio-Based Learning Environments: Recommendations for Effective Scaffolding of Reflective Thinking in Higher Education. <i>Journal of Educational Technology &amp; Society</i>, 19(4), 22–33.</p> <p>Scholz, K., Tse, C., &amp; Lithgow, K. (2017). Unifying Experiences: Learner and Instructor Approaches and Reactions to ePortfolio Usage in Higher Education. <i>International Journal of EPortfolio</i>, 7(2), 139–150.</p> <p>Syzdykova, Z., Koblandin, K., Mikhaylova, N., &amp; Akinina, O. (2021). Assessment of E-Portfolio in Higher Education. <i>International Journal of Emerging Technologies in Learning (IJET)</i>, 16(2), 120–134.</p> |
| 14. Additional notes | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Best Practice 3: MIELES

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1. Topic/ Area                                                                    | Open to various HE subjects/disciplines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2. Title                                                                          | MIELES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3. Type of Best Practice                                                          | <p>Project/Initiative on HE collaboration</p> <p>Collaborative E-learning Platform</p> <p>Guidelines for improvement of curricula</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 4. Date released                                                                  | 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 5. Partners/ network                                                              | <ul style="list-style-type: none"> <li>• University of Barcelona</li> <li>• KTH Royal Institute of Technology</li> <li>• Technische Universität Berlin</li> <li>• Sapienza -Università di Roma</li> <li>• CARDET</li> <li>• University of Peloponnese</li> <li>• Indian Institute of Science</li> <li>• Indian Institute of Technology Madras</li> <li>• Amrita University</li> <li>• KAHAM Unity Women's College</li> <li>• University of Mysore</li> <li>• Edulink Pvt. Ltd</li> <li>• Middle East College of Information Technology</li> <li>• Asian Institute of Gaming and Animation</li> <li>• MEA Engineering College</li> </ul> |

|                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6. Level                                                           | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 7. Description of the methods/<br>approach and/or<br>theories used | <p>It is believed that the Collaborative E-learning Platform is an innovative way of addressing the most pressing needs in the development of the European and Indian Higher Education sector at present, namely expanding access to higher education, and more specifically, exploiting the potential of the Governments' (and private sectors') investments in digital infrastructure, internet access, and online courses. The project departs from the premise that all HEI need support to upscale their e-learning offer. This has to do not just with ICT infrastructure, but also with the training of staff to use e-tools. The focus on training university management, and supporting universities to develop strategies, is a concrete way to ensure that HEI understand the potential of e-learning and identify clear ways to invest in it and utilise it, across the institution, in all subject areas. E-learning strategies may be different for each institution, depending on their context, which is another reason why this project is important. In addition, through the pilots and staff training phases, the project also encourage institutions to address quality assurance in e-learning, a transversal element of university strategies and a general concern of governments and employers. Finally, the project encourages the sustainable implementation of e-learning strategies beyond the project lifetime, in that it supports the Indian partners to disseminate results both internally in their institutions, at the local level, via multiplier events, and in the EU, where other inter-institutional cooperations and spin offs may develop.</p> |
| 8. Purpose/Aim                                                     | <p>The project has been designed in order to promote the creation of strategies to guide e-learning investments and to enhance Indian-European collaboration in e-learning</p> <p>MIELES is designed to provide a collaborative platform to address a relevant issue for the development, reform, democratization and modernization of the higher education</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | system in India and to reinforce Indian-EU higher education collaboration.                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 9. Target group                                                       | Higher Education faculty & staff<br>University leadership teams<br>Learning designers/educational technologists<br>Higher Education students                                                                                                                                                                                                                                                                                                                                                |
| 10. Evaluation (results) of its effectiveness (if applicable)         | <ul style="list-style-type: none"> <li>• Development of strategies for e-learning, which optimised investments in e-learning and ensures that more staff and students benefit from it.</li> <li>• Development of one collaborative online course within the partnership</li> <li>• Partner HEIs received QA guidelines for e-learning to help enhance the quality of activities</li> <li>• Partner HEIs got a best practice an example of a staff training module for e-learning</li> </ul> |
| 11. Overview of the lessons learned which are relevant to the project | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 12. Web link                                                          | <a href="https://mielesproject.org/">https://mielesproject.org/</a>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 13. References/ online sources                                        | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 14. Additional notes                                                  | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## Best Practice 4: RALDE (Re-thinking active learning for distance education)

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N/A                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1. Topic/ Area           | Open to various HE subjects/disciplines                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2. Title                 | RALDE (Re-thinking active learning for distance education)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3. Type of Best Practice | Project/Initiative<br><br>Online innovative pedagogical contents,online PBL, serious games                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 4. Date released         | The project started on 16-05-2021 and the expected date of completion is 15-05-2023.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 5. Partners/ network     | The consortium consists of a wide range of teacher-researchers and researchers with various scientific specialties and very involved in innovative pedagogies, researchers in educational sciences from the Teaching and Learning Centers of the HEI partners (INP, UM, UNAV, UNED), specialists in distance education (UNED), a scientific company involved in applied pedagogies (Adict) and a company specialized in communication.<br><br>The spanish partners are: UNIVERSIDAD DE NAVARRA<br><br>UNIVERSIDAD NACIONAL DE EDUCACION A DISTANCIA |
| 6. Level                 | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>7. Description of the methods/ approach and/or theories used</p>  | <p>European countries have been particularly hard hit by the COVID-19 pandemic and are currently at the beginning of a second wave. Most universities have had to close their doors and face many challenges. With their closure and the confinement of the population, they had to switch their teaching to digital technology. Despite their lack of preparation and the absence of adequate tools and expertise in digital pedagogy, they have been able to adapt remarkably well. Therefore, it is crucial to develop and use innovative and free educational resources to promote high quality, inclusive digital education, focusing on the implementation of hybrid, innovative, distance and online learning to address the problems of higher education institutions highlighted during the epidemic crisis.</p> |
| <p>8. Purpose/Aim</p>                                                | <p>The consortium ´s aim is to develop the digital competences of teachers and educators. Firstly, the work aims to identify, at European level, the pedagogical approaches implemented between March 2020 and today, and to analyse them through benchmarking and surveys in several European universities. Strong changes brought about by a rapid and massive migration from face-to-face to digital pedagogy are forcing teachers to review their student assessment system and the quality of their own teaching. Thus, it is also intended to promote the implementation of strategies and a culture of quality, in order to foster excellence in teaching.</p>                                                                                                                                                     |
| <p>9. Target group</p>                                               | <p>Higher Education faculty &amp; staff<br/>University leadership teams<br/>Learning designers/educational technologists<br/>Higher Education students</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p>10. Evaluation (results) of its effectiveness (if applicable)</p> | <p>The expected direct and tangible results are</p> <ul style="list-style-type: none"> <li>- a European study on the pedagogical practices of HEIs during Covid</li> <li>- the analysis of good practices during the crisis</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                       | <ul style="list-style-type: none"> <li>- development of a guideline on student evaluation and course evaluation</li> <li>- a series of tutorial for teachers to develop their own innovative online learning content</li> <li>- a training on digitalisation of presentation skills</li> </ul>                                                                                                           |
| 11. Overview of the lessons learned which are relevant to the project | N/A                                                                                                                                                                                                                                                                                                                                                                                                      |
| 12. Web link                                                          | Under construction                                                                                                                                                                                                                                                                                                                                                                                       |
| 13. References/<br>online sources                                     | <a href="https://www.innovabiologia.com/uned-erasmus-educacion-a-distancia/">https://www.innovabiologia.com/uned-erasmus-educacion-a-distancia/</a><br><br><a href="https://ec.europa.eu/programmes/erasmus-plus/projects/eplu-project-details/#project/2020-1-FR01-KA226-HE-095581">https://ec.europa.eu/programmes/erasmus-plus/projects/eplu-project-details/#project/2020-1-FR01-KA226-HE-095581</a> |
| 14. Additional notes                                                  | N/A                                                                                                                                                                                                                                                                                                                                                                                                      |

## Best Practice 5: Integrated Learning Design Environment 2 - ILDE2



|                                                              |                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Topic/ Area                                               | Open to all HE subjects<br>Learning design<br>Continuous Professional Development                                                                                                                                                                                                                |
| 2. Title                                                     | Integrated Learning Design Environment 2 - ILDE2                                                                                                                                                                                                                                                 |
| 3. Type of Best Practice                                     | Online community platform<br>Guidelines                                                                                                                                                                                                                                                          |
| 4. Date released                                             | n/d                                                                                                                                                                                                                                                                                              |
| 5. Partners/ network                                         | The portal is managed by the Interactive Technologies Group at Universitat Pompeu Fabra, Barcelona, Spain                                                                                                                                                                                        |
| 6. Level                                                     | International/ EU                                                                                                                                                                                                                                                                                |
| 7. Description of the methods/ approach and/or theories used | It follows the principles of open and distributed education for all, through an online community of practice approach. The members of the community can explore, create, co-create and share innovative learning designs in Virtual Learning Environments with each other.                       |
| 8. Purpose/Aim                                               | ILDE 2 a community platform for learning design. It is based on its predecessor, IDLE, and its aim is to support the complete "learning design" lifecycle: from authoring the designs to deploying them in VLEs for evaluation and eventual redesign, all in the context of teacher communities. |
| 9. Target group                                              | Higher Education faculty & staff<br>Learning designers/educational technologists                                                                                                                                                                                                                 |

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10. Evaluation (results) of its effectiveness (if applicable)         | Based on preliminary studies with end-users of different educational sectors, the first version, namely ILDE on which ILDE 2 is based and which it has expanded, allows the co-creation of learning designs within a community of practice that supports its members. This way, all aspects of design are covered, from exploring designs, choosing an authoring tool, co-producing a design, sharing it, to implementing it into a VLE, or providing feedback and reflection (Hernández-Leo, Chacón, Prieto, Asensio-Pérez, Derntl, 2013). |
| 11. Overview of the lessons learned which are relevant to the project | Instructors can benefit from an online community of practice that effectively and continuously supports them, as members, to follow and implement sound pedagogical methods for designing learning activities in VLE.<br>IDLE 2 also exploits data analytics at different layers (from community analytics to learning analytics).                                                                                                                                                                                                          |
| 12. Web link                                                          | ILDE2 Info: <a href="https://www.upf.edu/web/tide/tools/ilde2">https://www.upf.edu/web/tide/tools/ilde2</a><br><br>The platform: <a href="https://ilde2.upf.edu/clatmooc/">https://ilde2.upf.edu/clatmooc/</a><br><br>About section/General info with resources:<br><a href="https://ilde.upf.edu/about/">https://ilde.upf.edu/about/</a>                                                                                                                                                                                                   |
| 13. References/ online sources                                        | Hernández-Leo, D.; Chacón, J.; Prieto, J.P.; Asensio-Pérez, J.I.; Derntl, M.; Towards an Integrated Learning Design Environment. In: Proceedings of 8th European Conference on Technology Enhanced Learning, EC-TEL 2013, Paphos, Cyprus, September 2013, LNCS 8095, pp. 448–453.                                                                                                                                                                                                                                                           |
| 14. Additional notes                                                  | ILDE development was supported by the European Commission in the METIS multilateral project:<br><a href="http://metis-project.org">http://metis-project.org</a><br>(project reference 531262-LLP-2012-ES-KA3-KA3MP)                                                                                                                                                                                                                                                                                                                         |

## Best Practice 6: DIGIT' – 'Boost Competences for a responsible use of online identity'

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Topic/ Area                                               | Open to all HE subjects/disciplines<br>Digital identity and digital literacy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2. Title                                                     | DIGIT' – 'Boost Competences for a responsible use of online identity'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3. Type of Best Practice                                     | A focus group infographic<br>A poster with 20 Tips for learners to reflect on their digital footprint<br>DIGIT Manifesto and guidelines for adult educators<br>DIGIT training programme<br>Policy recommendations                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4. Date released                                             | 2019                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5. Partners/ network                                         | <ul style="list-style-type: none"> <li>• an innovation consultancy: INnCREASE, Poland</li> <li>• a lifelong learning centre: Platon, Greece</li> <li>• a European NGO working on all aspects of lifelong learning: Lifelong Learning Platform, Belgium</li> <li>• a mentoring and consultancy agency working with SMEs: Inova, United Kingdom</li> <li>• an adult education and training centre: DomSpain, Spain</li> <li>• a European network of organisations active in the field of education which promotes digital skills: DLearn, Italy</li> <li>• a public organisation in lifelong learning education: UPI, Slovenia.</li> </ul> |
| 6. Level                                                     | International/EU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7. Description of the methods/ approach and/or theories used | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 8. Purpose/Aim                                               | The partnership aims to investigate adults' digital identity by providing them and adult educators with the necessary educational tools to promote digital literacy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 9. Target group                                              | Higher Education faculty & staff<br>Policymakers, University leadership teams<br>Higher Education students                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|                                                                       |                                                                                                                  |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| 10. Evaluation (results) of its effectiveness (if applicable)         | N/A                                                                                                              |
| 11. Overview of the lessons learned which are relevant to the project | Highlights of lessons learned through a survey can be found <a href="#">here</a> .                               |
| 12. Web link                                                          | <a href="https://digitproject.eu/">https://digitproject.eu/</a>                                                  |
| 13. References/ online sources                                        | <a href="#">E-learning courses</a><br><a href="#">Focus group report</a><br><a href="#">Guidelines/Manifesto</a> |
| 14. Additional notes                                                  | Project number: 2017-1-PL01-KA2014-038433                                                                        |



## References



- Abarius, P. (2013). Elektroninio mokymosi metodų naudojimo Vilniaus universitete raida ir perspektyvos. *Informacijos Mokslai*, 63, 82-90. doi:10.15388/Im.2013.0.1590
- *Accesul populației la tehnologia informației și comunicațiilor - România*. (2019). Retrieved November 1, 2021, from: <https://insse.ro/cms/ro/content/accesul-popula%C5%A3iei-la-tehnologia-informa%C5%A3iei-%C5%9Fi-comunica%C5%A3iilor-rom%C3%A2nia-2019>
- Al-Fraihat, D., Joy, M., & Jane, S. (2018). A Comprehensive Model for Evaluating E-Learning Systems Success. *Distance Learning*, 15(3), 57-73. Retrieved from: <https://eric.ed.gov/?id=EJ1297687>

- Anderson, T., Rourke, L., Garrison, D. & Archer, W. (2001). Assessing Teaching Presence in a Computer Conferencing Context. *Journal of Asynchronous Learning Networks*. 5. doi: 10.24059/olj.v5i2.1875
- Antonopoulou, H., Halkiopoulos, C., Barlou, O., & Beligiannis, G. N. (2020). Leadership Types and Digital Leadership in Higher Education: Behavioural Data Analysis from University of Patras in Greece. doi: 10.26803/ijlter.19.4.8
- Aristotle University of Thessaloniki, (2021). Distance Education Platforms / Program Support - KEDIVIM - AUTH. (n.d.). Retrieved July 10, 2021, from <https://www.diaviou.auth.gr/ypostiriktikes-ypiresies-kid/>
- Assimakopoulos, C., Antoniadis, I., Kayas, O. G., & Dvizac, D. (2017). Effective social media marketing strategy: Facebook as an opportunity for universities. *International Journal of Retail & Distribution Management*, 45(5), 532–549. doi: 10.1108/IJRDM-11-2016-0211
- Barra, E., López-Pernas, S., Alonso, Á., Sánchez-Rada, J. F., Gordillo, A., & Quemada, J. (2020). Automated Assessment in Programming Courses: A Case Study during the COVID-19 Era. *Sustainability*, 12(18), 7451. doi: 10.3390/su12187451
- Beckmann, A. (2020). Students' view on digital tools in university lectures. 14th international technology, education and development conference (INTED2020) [2340-1079], 375-383.
- Bielousová, R. (2020). On the Issue of Adapting Materials for the English for Specific Purposes Online Course. *Revista Romaneasca Pentru Educatie Multidimensionala*, 12. 60-76. doi: 10.18662/rrem/12.1sup1/223
- Brolpito, A., Lightfoot, M., Radišić, J. & Šćepanović, D. (2016). *Digital and online learning in vocational education and training in Serbia - a case study*. European Training Foundation.
- Brita-Paja, J. L., Gregorio, C., Llana, L., Pareja, C., Riesco, A. (2019). Introducing MOOC-like methodologies in a face-to-face undergraduate course: a detailed case study. *Interactive Learning Environments*, 27(1), 15-32. doi: 10.1080/10494820.2018.1451345

- Burkšaitienė, N., Lesčinskij, R., Suchanova, J., & Šliogerienė, J. (2021). Self-Directedness for Sustainable Learning in University Studies: Lithuanian Students' Perspective. *Sustainability*, 13(16), 9467. doi:10.3390/su13169467
- Carapeto, C., Barros, D.M.V. Nutrition and health as virtual class at Open University (Portugal): pedagogical strategies for higher education. *International Journal of Educational Technology in Higher Education*. 16(19). doi: 10.1186/s41239-019-0151-4
- CEDEFOP (2020). Greece: Responses to the Covid-19 outbreak. (2020, July 10). Cedefop. <https://www.cedefop.europa.eu/en/news-and-press/news/greece-responses-covid-19-outbreak>
- Čelić, B. & Dedeić, J. (2021). Synchronous and asynchronous learning in online education. *Trendovi razvoja: Online nastava na univerzitetima*, Novi Sad.
- Çetin, E. & Solmaz, E. (2020). Gamifying the 9 Events of Instruction with Different Interactive Response Systems: The Views of Social Sciences Teacher Candidates. *Malaysian Online Journal of Educational Technology*, 8(2). doi: 10.17220/mojet.2020.02.001
- Chanin, R., Santos, A.R., Nascimento, N., Sales, A., Pompermaier, L., & Prikladnicki, R. (2018). Integrating Challenge Based Learning Into a Smart Learning Environment: Findings From a Mobile Application Development Course (P). SEKE.
- Chodzkienė, L., Korostenskienė, J., Medvedeva, O. (2021). Braving remote instruction at Vilnius University: response to the COVID-19 pandemic. In Radić, Nebojša; Atabekova, Anastasia; Freddi, Maria; Schmied, Josef (Eds), *The world universities' response to COVID-19: remote online language teaching* (pp. 249-263). Research-publishing.net. doi: 10.14705/rpnet.2021.52.1276
- Coman, C., Țîru, L.G., Meseșan-Schmitz, L., Stanciu, C., Bularca, M.C. (2020). Online Teaching and Learning in Higher Education during the Coronavirus Pandemic: Students' Perspective. *Sustainability*, 12, 10367. doi: 10.3390/su122410367
- Danellakis, D. Kostas, A. & Sofos, A. (2020). The technology acceptance of Massive Open Online Courses (MOOCs) by the students of Greek higher education

institutions: The case of Pedagogical Departments. 10th International Conference in Open & Distance Learning, 10(2A), 104–116. doi: 10.12681/icodl.2297

- Dagienė, V., & Stupurienė, G. (2016). Bebras - a Sustainable Community Building Model for the Concept Based Learning of Informatics and Computational Thinking. *Informatics in Education*, 15(1), 25-44. doi:10.15388/infedu.2016.02
- Darra, C. (2020). E - learning in Higher Education. (Postgraduate thesis) doi: 10.26267/unipi\_dione/502
- Demetriou, L., Hadjicharalambous, D., & L. Keramioti. (2021). Examining the relationship between distance learning processes and university student's anxiety in times of Covid. *European Journal of Social Sciences Studies*, 6(2), 123–141. doi: 10.46827/ejsss.v6i2.1012
- Demosthenous, G., Panaoura, A., & Eteokleous N. (2020). The use of collaborative assignment in online learning environments: The case of higher education. *International Journal of Technology in Education and Science (IJTES)*, 4(2), 108-117. doi: 10.46328/ijtes.v4i2.43
- Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. doi: 10.1177/0047239520934018
- Dogoriti, E., Pange, J., & S. Anderson, G. (2014). The use of social networking and learning management systems in English language teaching in higher education. *Campus-Wide Information Systems*, 31(4), 254–263. doi: 10.1108/CWIS-11-2013-0062
- Drašković, D., Šekularac, T., Srbijanović, A., Nikolić, B., Protić, J., Cvetanović, M., Ivaniš, P. & Tomašević, M. (2021). New approaches in distance learning and work of professional bodies of the University of Belgrade - School of Electrical Engineering during the COVID-19 pandemic. *Trendovi razvoja: Online nastava na univerzitetima*, Novi Sad.
- Eteokleous, & Neophytou (2019). A Proposed Quality Assurance Procedure for Distance Learning Programs: Design, Development and Implementation,

*International Conference in Open and Distance Education*, 10, 252-263. doi: 10.12681/icodl.2436

- European Parliament (2021), Study for the Cult Committee.  
IPOL\_STU(2021)690872\_EN.pdf. (n.d.). Retrieved July 9, 2021, from [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/690872/IPOL\\_STU\(2021\)690872\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/690872/IPOL_STU(2021)690872_EN.pdf)
- Fondacija Tempus. (2021). Analiza upitnika o sprovođenju nastave na daljinu na visokoškolskim ustanovama u Srbiji, Beograd
- Gagné, R. M., Briggs, L. J., & Wager, W. W. (1992). *Principles of instructional design* (4th ed.). Forth Worth, TX: Harcourt Brace Jovanovich College Publishers. Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education model. *The Internet and Higher Education*, 2(2-3), 87-105
- Georgiadis, G., & Sofos, A. (2020). Self-regulated learning as part of WordPress's educational development in collaborative learning environments. *10th International Conference in Open & Distance Learning*, 10(2A), 190–201. doi: 10.12681/icodl.2343
- Gheorghe Asachi Technical University of Iasi—Announcement About Online Courses. Available at: <https://www.tuiasi.ro/noutati/studentii-profesorii-si-personalul-din-administratia-universitatii-tehniceau-la-dispozitie-doua-platforme-pentru-a-si-desfasura-activitatile-online/>
- Gkika, E. C., Anagnostopoulos, T., Ntanos, S., & Kyriakopoulos, G. L. (2020). User Preferences on Cloud Computing and Open Innovation: A Case Study for University Employees in Greece. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(2), 41. doi: 10.3390/joitmc6020041
- Gkontzis, A., Stavropoulos, E., Verykios, V., Karachristos, C., & Lazarinis, F. (2017). A Holistic View on Academic Wide Data through Learning Analytics Dashboards.
- Gouvias, D., Vitsilakis, C., & Kostas, A. (2019). E-MOVING FORWARD – EMERGING ISSUES REGARDING E-LEARNING IN NON-FORMAL EDUCATION IN GREECE.

European Journal of Open Education and E-Learning Studies. doi:

10.46827/ejoe.v0i0.2251

- Gravani, M. N. (2018). Use of Technology at the Open University of Cyprus (OUC) to Support Adult Distance Learners: To What Extent Is Being Informed by the Learner-Centred Education (LCE) Paradigm? In Anjana (Ed.), *Technology for Efficient Learner Support Services in Distance Education: Experiences from Developing Countries*. Singapore: Springer Nature Singapore Pte Ltd. doi: 10.1007/978-981-13-2300-3
- Gubiani, D., Mozetič, M., Koroušić Seljak, B., Urbančič, T. (2020). E-learning experiment: web conference activities in teaching at a traditional university. *International Journal of Innovation and Learning*, 27(1), 37–57. doi: 10.1504/IJIL.2020.103887
- Gudonienė, D., Paulauskaitė-Tarasevičienė, A., Daunorienė, A., & Sukackė, V. (2021). A Case Study on Emerging Learning Pathways in SDG-Focused Engineering Studies through Applying CBL. *Sustainability*, 13(15), 8495. doi:10.3390/su13158495
- Guerrero-Roldán, A. E., Noguera, I. (2018). A model for aligning assessment with competences and learning activities in online course. *The Internet and Higher Education*, 38. 36-46. doi: 10.1016/j.iheduc.2018.04.005
- GUnet, (2021), GUnet – Greek Universities Network. (n.d.). Retrieved July 14, 2021, from <https://www.gunet.gr/en/>
- Gustafson, K. L., & Branch, R. M. (2002). *Survey of Instructional Development Models*. Retrieved from: <https://eric.ed.gov/?q=Survey+of+Instructional+Development&id=ED477517>
- Gutai, A., Kolak, A., Havzi, S., Spasojević, I. & Lolić, T. (2021). Collaborative learning in online environment. *Trendovi razvoja: Online nastava na univerzitetima*, Novi Sad.
- Gutiérrez-Martínez, Y., Bustamante-Bello, R., Navarro-Tuch, S. A., López-Aguilar, A. A., Molina, A., & Álvarez-Icaza Longoria, I. (2021). A Challenge-Based Learning Experience in Industrial Engineering in the Framework of Education 4.0. *Sustainability*, 13(17), 9867. doi:10.3390/su13179867

- Hadullo, K., Oboko, R., & Omwenga, E. (2017). A model for evaluating e-learning systems quality in higher education in developing countries. *International Journal of Education and Development using Information and Communication Technology*, 13(2), 185-204. Retrieved from <http://ijedict.dec.uwi.edu/viewarticle.php?id=2311>
- Hajisoteriou, C. Karousiou, C., & Angelides, P. (2018). INTERACT: building a virtual community of practice to enhance teachers' intercultural professional development, *Educational Media International*. doi: 10.1080/09523987.2018.1439709
- Heinrich, R., Molenda, M., Russell, J.D., Smaldino, S.E. (1996). *Instructional Media and Technologies for Learning*. Englewood Cliffs, NJ: Merrill
- *Invatamantul Online Prin Ochii Studentilor*. (2020). Retrieved November 1, 2021, from: <https://anosr.ro/wp-content/uploads/2021/04/2020-Invatamantul-online-prin-ochii-studentilor.-Recomandarile-ANOSR.-Raport-octombrie.pdf>
- Jusas, V., Butkiene, R., Venčkauskas, A., Burbaite, R., Gudoniene, D., Grigaliūnas, Š., & Andone, D. (2021). Models for Administration to Ensure the Successful Transition to Distance Learning during the Pandemic. *Sustainability*, 13(9), 4751. doi: 10.3390/su13094751
- Kabassi, K., dragonas, ioannis, Ntouzevits, A., Pomonis, T., Papastathopoulos, G., & Vozaitis, Y. (2016). Evaluating a Learning Management System for Blended Learning in Higher Education. SpringerPlus, 5. doi: 10.1186/s40064-016-1705-8
- Kalogerou, V. (2020). The development of Business English courses using online technology to address the emerging needs in the Cypriot context. *Editorial Universitat Politècnica de València*. 269-277. doi: 10.4995/INN2019.2019.10144
- Karachristos, C., Kouvara, T., Orphanoudakis, T., Stavropoulos, E., Batsi, Z., & Chronopoulou, M. (2020). Defining e-learning facilitation -the greek case study. doi: 10.21125/iceri.2020.1353
- Karalis, T. (2020). PLANNING AND EVALUATION DURING EDUCATIONAL DISRUPTION: LESSONS LEARNED FROM COVID-19 PANDEMIC FOR TREATMENT OF EMERGENCIES IN EDUCATION. *European Journal of Education Studies*. doi: 10.46827/ejes.v0i0.3047

- Karalis, T., & Raikou, N. (2020). Teaching at the Times of COVID-19: Inferences and Implications for Higher Education Pedagogy. *International Journal of Academic Research in Business and Social Sciences*, 10(5), Pages 479-493.  
<https://doi.org/10.6007/IJARBS/v10-i5/7219>
- Karvounidis, T., Chimos, K., Bersimis, S., & Douligeris, C. (2018). Factors, issues and interdependencies in the incorporation of a Web 2.0 based learning environment in higher education. *Education and Information Technologies*, 23(2), 935–955.  
<https://doi.org/10.1007/s10639-017-9644-8>
- Katsarou, E. (2021). The effects of computer anxiety and self-efficacy on L2 learners' self-perceived digital competence and satisfaction in higher education. *Journal of Education and E-Learning Research*, 8(2), 158–172. Scopus.  
<https://doi.org/10.20448/JOURNAL.509.2021.82.158.172>
- Kazanidis, I., Pellas, N., Fotaris, P., & Tsinakos, A. (2018). Facebook and Moodle Integration into Instructional Media Design Courses: A Comparative Analysis of Students' Learning Experiences using the Community of Inquiry (CoI) Model. *International Journal of Human-Computer Interaction*, 34(10), 932–942. doi: 10.1080/10447318.2018.1471574
- Kebritchi, M., Lipschuetz, A., & Santiago, L. (2017). Issues and Challenges for Teaching Successful Online Courses in Higher Education: A Literature Review. *Journal of Educational Technology Systems*, 46(1), 4–29. doi: 10.1177/0047239516661713
- Klačnja-Milićević, A., Ivanović, M., & Stantić, B. (2020). Designing Personalized Learning Environments — The Role of Learning Analytics. *Vietnam Journal of Computer Science*, 7(3), 231-250. doi:10.1142/S219688882050013X
- Knoster, K. C., (2021). Pandemic Pedagogy: A Zoom Teaching Experiment Using Cognitive Theory of Multimedia Learning Principles of Multimedia Design. *Graduate Theses, Dissertations, and Problem Reports*. 8322. Available at:  
<https://researchrepository.wvu.edu/etd/8322>

- Kolaković, S., Doroslovački, R., Dumnić, B., Stefanović, D. & Kupusinac, A. (2021). Iskustva i prednosti korišćenja platforme CANVAS na međunarodnim Erasmus projektima i u.
- Könings, K.D., de Jong, N., Lohrmann, C. et al. Is blended learning and problem-based learning course design suited to develop future public health leaders? An explorative European study. *Public Health Rev*, 39(13). doi: 10.1186/s40985-018-0090-y
- Koukis, N., & Jimoyiannis, A. (2019). MOOCS for teacher professional development: Exploring teachers' perceptions and achievements. *Interactive Technology and Smart Education*, 16(1), 74–91. doi: 10.1108/ITSE-10-2018-0081
- Koutselini, M. (2018). Quality assurance of e-learning within higher education: The philosophical and operational framework. *Academia*. doi: 10.26220/aca.3214
- Krathwohl, D. R. (2002) A Revision of Bloom's Taxonomy: An Overview,
- Theory Into Practice, 41:4, 212-218, DOI: 10.1207/s15430421tip4104\_2Krouska, A., Troussas, C., & Virvou, M. (2017). Comparing LMS and CMS platforms supporting social e-learning in higher education. 2017 8th International Conference on Information, Intelligence, Systems Applications (IISA), 1–6. doi: 10.1109/IISA.2017.8316408nastavnom procesu. *Trendovi razvoja: Online nastava na univerzitetima*, Novi Sad.
- Lazarinis, F., Karachristos, C. V., Stavropoulos, E. C., & Verykios, V. S. (2019). A blended learning course for playfully teaching programming concepts to school teachers. *Education and Information Technologies*, 24(2), 1237–1249. doi: 10.1007/s10639-018-9823-2
- Lytridis, C., & Tsinakos, A. (2018). Evaluation of the ARTutor augmented reality educational platform in tertiary education. *Smart Learning Environments*, 5(1), 6. doi: 10.1186/s40561-018-0058-x
- Malinauskas, R. K., Požerienė J. (2020). Academic Motivation Among Traditional and Online University Students. *European Journal of contemporary education*, 9(3), 584-591. <https://doi.org/10.13187/ejced.2020.3.584>

- Marinoni, G., van't Land H., Jensen T. (2020). The impact of COVID-19 on Higher Education around the world. [Report]. Available at: [https://www.iau-aiu.net/IMG/pdf/iau\\_covid19\\_and\\_he\\_survey\\_report\\_final\\_may\\_2020.pdf](https://www.iau-aiu.net/IMG/pdf/iau_covid19_and_he_survey_report_final_may_2020.pdf)
- Marjanović, U., Komlenov-Mudrinski, Ž., Kerac, M., Omorjan, R., Žikić, D., Žunić, I. & Gojić, D. (2021). E-učenje na univerzitetu u Novom Sadu u vreme COVID-19. *Trendovi razvoja: Online nastava na univerzitetima*, Novi Sad.
- Marković, M., Sudarić, T., Ravlić, M. & Barač, Ž. (2021). Challenges in teaching and learning in higher education during the COVID-19 crisis, case study. *Trendovi razvoja: Online nastava na univerzitetima*, Novi Sad.
- Martín-Lara, M., & Rico, N. (2020). Education for Sustainable Energy: Comparison of Different Types of E-Learning Activities. *Energies*, 13(15), 4022. doi: 10.3390/en13154022
- Matijašević, J., Carić, M. & Škorić, S. (2021). Online nastava u visokom obrazovanju – prednosti, nedostaci i izazovi. *Trendovi razvoja: Online nastava na univerzitetima*, Novi Sad
- Martzoukou, K., Fulton, C., Kostagiolas, P., & Lavranos, C. (2020). A study of higher education students' self-perceived digital competences for learning and everyday life online participation. *Journal of Documentation*, 76(6), 1413–1458. Scopus. doi: 10.1108/JD-03-2020-0041
- Mavropoulos, A. A., Sipitanou, A., & Pampouri, A. (2019). Training of Adult Trainers: Implementation and Evaluation of a Higher Education Program in Greece. *International Review of Research in Open and Distributed Learning*, 20(1). doi: 10.7202/1057984ar
- Mercado, C.A. (2008). Readiness Assessment Tool for An eLearning Environment Implementation. *Fifth International Conference on eLearning for Knowledge-Based Society*, December 11-12, 2008, Bangkok, Thailand
- MoEFA (Ministry of Education and Religious Affairs) (2020) DPIA\_YΠAIΘ\_sign.pdf. (n.d.). Retrieved June 12, 2021, from

[https://www.minedu.gov.gr/publications/docs2020/DPIA\\_%CE%A5%CE%A0%CE%91%CE%99%CE%98\\_sign.pdf](https://www.minedu.gov.gr/publications/docs2020/DPIA_%CE%A5%CE%A0%CE%91%CE%99%CE%98_sign.pdf)

- Molea, R., & Năstasă, A. (2020). How Romanian Higher Education Institutions Have Adapted to Online Learning Process in the COVID-19 Context through a Student's Eye. *Revista Romaneasca Pentru Educatie Multidimensionala*, 12, 175-181. doi: 10.18662/rrem/12.2Sup1/304
- National and Kapodistrian University of Athens, (2021). UOA: General instructions for distance education programs offered by UOA. (n.d.). Retrieved July 10, 2021, from <http://www.primedu.uoa.gr/proptyxiakes-spoydes/genikes-odhgies-gia-programmata-e3-apostasews-ekpaideyshs-poy-prosferontai-apo-to-ekpa.html>
- Naujokaitienė, J., Tamoliūnė, G., Volungevičienė, A. (2020). Using learning analytics to engage students: Improving teaching practises through informed interactions. *Journal of new approaches in educational research*, 9(2), 231-244. doi: 10.7821/naer.2020.7.561
- Naujoks, N., Bedenlier S., Gläser-Zikuda M., Kammerl R., Kopp B., Ziegler A., Händel M. (2021). Self-Regulated Resource Management in Emergency Remote Higher Education: Status Quo and Predictors. *Front Psychol.* 12. doi: 10.3389/fpsyg.2021.672741
- Navickiene, V., Dagiene, V., Jasute, E., Butkiene, R., & Gudoniene, D. (2021). Pandemic-Induced Qualitative Changes in the Process of University Studies from the Perspective of University Authorities. *Sustainability*, 13(17), 9887. doi:10.3390/su13179887
- Nikolić, D., Lolić, T., Havzi, S., Spasojević, I. & Stefanović, D. (2021). Primena softverskih alata baziranih na igri u online okruženju učenja. *Trendovi razvoja: Online nastava na univerzitetima*, Novi Sad.
- Novaković, B. & Carić, B. (2021). On-line učenje: mogućnosti i ograničenja. *Trendovi razvoja: Online nastava na univerzitetima*, Novi Sad.

- OECD (2020), Education Policy Outlook, “Et-Monitor-Report-2019-Greece\_en.Pdf.” Accessed July 13, 2021. [https://ec.europa.eu/education/sites/default/files/document-library-docs/et-monitor-report-2019-greece\\_en.pdf](https://ec.europa.eu/education/sites/default/files/document-library-docs/et-monitor-report-2019-greece_en.pdf).
- OECD (2020b), Country-profile-Greece-2020.pdf. (n.d.). Retrieved July 14, 2021, from <https://www.oecd.org/education/policy-outlook/country-profile-Greece-2020.pdf>
- Papadakis, S., Kalogiannakis, M., Sifaki, E., & Vidakis, N. (2018). Access Moodle Using Smart Mobile Phones. A Case Study in a Greek University. In A. L. Brooks, E. Brooks, & N. Vidakis (Eds.), *Interactivity, Game Creation, Design, Learning, and Innovation* (pp. 376–385). Springer International Publishing. doi: 10.1007/978-3-319-76908-0\_36
- Passey D., Dagienė V., Atieno L. V., & Baumann W. (2018). Computational Practices, Educational Theories, and Learning Development. *Problemos*, 24-38. doi: 10.15388/Problemos.2018.0.12346
- Patsios, H. (2021). Investigation of the Views and Attitudes of Greek Adult Learners in Formal and Non formal Forms of Education for the e-learning Method in Greece (Postgraduate thesis). Retrieved from: <http://dspace.lib.uom.gr/handle/2159/25236>
- Pavlović, A., Ivanišević, A., Radišić, M., & Lošonc, A. (2021). Uticaj COVID-19 i on-line učenja na visoko obrazovanje u Srbiji. *Trendovi razvoja: Online nastava na univerzitetima*, Novi Sad
- Pedrotti M., Nistor N. (2019) How Students Fail to Self-regulate Their Online Learning Experience. In: Scheffel M., Broisin J., Pammer-Schindler V., Ioannou A., Schneider J. (eds) *Transforming Learning with Meaningful Technologies*. EC-TEL 2019. Lecture Notes in Computer Science, 11722. Springer, Cham. doi: 10.1007/978-3-030-29736-7\_28
- Pellas, N., & Kazanidis, I. (2015). On the value of Second Life for students’ engagement in blended and online courses: A comparative study from the Higher Education in Greece. *Education and Information Technologies*, 20(3), 445–466. doi: 10.1007/s10639-013-9294-4
- Peters, M.A. & Jandric, P. (2018). *The digital university: a dialogue and manifesto*. Peter Lang Publishing, cited in MacNeill (2018). *Open Practice and Praxis in the*

context of the digital university. Retrieved from:

<https://www.slideshare.net/sheilamac/open-practice-and-praxisin-the-context-of-the-digital-university>

- Pliakoura, A., Mpeligiannis, G., & Kontogeorgios, A. (2019). Use and Satisfaction by the Integrated Learning Management Systems: The case of the eClass of the University of Patras. *Education, Lifelong Learning, Research and Technological Development, Innovation and Economy*, 2(0), 847–864. doi: 10.12681/elrie.1514
- Politehnica University Timisoara—Virtual Campus. Available online: <https://elearning.upt.ro/ro/campusvirtual/>
- Romero Martínez, S.J., Ordóñez Camacho, X.G., Guillén-Gamez, F.D., & Bravo Agapito, J. (2020). Attitudes toward technology among distance education students: Validation of an explanatory model. *Online Learning*, 24(2), 59-75. doi: 10.24059/olj.v24i2.2028
- Rutkauskienė, D., Ostreika, A., Monastyreskiene, V. (2019). Reasoning the implementation of Massive Open Online Courses in higher institutions. *Rural environment. Education. Personality*, 12. <https://doi.org/10.22616/REEP.2019.016>
- Rutkauskienė, D., Jansen, D., Ukvalbergiene, K., Gudoniene, D., Bartkute, R. (2018). MOOC Strategies of Higher Education Institutions in Lithuania. Status report based on mapping survey conducted in November 2016-February 2017. The Netherlands. Retrieved August 9, 2021, from [https://www.oerknowledgecloud.org/archive/MOOC\\_Strategies\\_of\\_HEIs\\_in\\_Lithuania.pdf](https://www.oerknowledgecloud.org/archive/MOOC_Strategies_of_HEIs_in_Lithuania.pdf)
- Savvidou, C. (2018). Exploring the Pedagogy of Online Feedback in Supporting Distance Learners. In N. Llevot-Calvet and O. Bernad-Cavero (Eds.), *Advanced Learning and Teaching Environments: Innovation, Contents and Methods*. doi: 10.5772/intechopen.74028.
- Sereti & Giosos (2018). Development of a Learner Autonomy Scale. *The Journal for Open and Distance Education and Educational Technology*, 14(1). doi: 10.12681/jode.18212

- Serrate-González, S., Torrijos-Fincias, P., González Sánchez M., Caballero Franco D. (2021). Profiling teaching staff using blended learning in their practices in higher education, *Research Papers in Education*. doi: 10.1080/02671522.2020.1864759
- Shivangi, D. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, 49(1), 5–22.
- Šidlauskas, A., Limba, T. (2019). General Data Protection Regulation implementation in higher education institutions. *EDULEARN19 Proceedings 11th International Conference on Education and New Learning Technologies*, Spain, 2040-2047.
- Sistemul Educațional Informatizat (n.d.). Available at: <https://www.simavi.ro/ro/sistemul-educationala-informatizat-sei>
- Souleles, N., Laghos, A., & Savva, S. (2021). From face-to-face to online: assessing the Effectiveness of the rapid transition of higher Education due to the coronavirus outbreak – the student perspective. *Proceedings of INTED2021 Conference 8th-9th March 2021*. doi: 10.21125/inted.2021.2241
- Spajić, J., Mitrović, K. & Jakšić, A. (2021). Podsticanje interaktivnosti u onlajn nastavi. *Trendovi razvoja: Online nastava na univerzitetima*, Novi Sad.
- Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). (2015). Brussels, Belgium.
- Suresh, M., Priya, V.V., Gayathri, R. (2018). Effect of e-learning on academic performance of undergraduate students. *Drug Invent*, 10, 1797–1800.
- *Survey on online and distance learning – Results*. (2020). REtrieved November 1, 2021, from: <https://www.schooleducationgateway.eu/en/pub/viewpoints/surveys/survey-on-online-teaching.htm>
- Tartavulea, C.V., Albu, C.N., Albu, N, Dieaconescu, R.I., Petre, S. (2020). Online Teaching Practices and the Effectiveness of the Educational Process in the Wake of the COVID-19 Aademic. *Amfiteatru Economic*, 22(55), 920-936. doi: 10.24818/EA/2020/55/920

- Technical University of Cluj—Virtual Campus. Available at:  
<https://constructii.utcluj.ro/anunturi/campus-virtual-utcn-platforma-de-colaborare-si-comunicare-online.html>
- Toki, E., Sypsas, A., Pagge, A., & Pagge, T. (2016). E-learning and Webinars: Teachers' and students' views. *International Conference in Open & Distance Learning*, 7(2A). doi: 10.12681/icodl.599
- Transilvania University of Brasov-e-Learning Platform. Available at:  
<https://elearning.unitbv.ro/login/index.php>
- Troussas, C., Krouska, A., & Sgouropoulou, C. (2020). Collaboration and fuzzy-modeled personalization for mobile game-based learning in higher education. *Computers & Education*, 144, 103698.  
<https://doi.org/10.1016/j.compedu.2019.103698>
- University "Lucian Blaga" of Sibiu—Course Portal. Available at:  
<https://classroom.ulbsibiu.ro/ro/>
- University of Craiova—online Platforms. Available at:  
[https://www.ucv.ro/it\\_fonduri\\_eur/servicii\\_web/platforme\\_online.php](https://www.ucv.ro/it_fonduri_eur/servicii_web/platforme_online.php)
- University of Oradea—Learning Centre. Available at: <https://e.uoradea.ro/>
- University of West Attica, (2021). E-Learning University of West Attica. (n.d.). Retrieved July 10, 2021, from <https://www.uniwa.gr/e-learning/>
- University POLITEHNICA of Bucharest—Course Portal. Available online at:  
<https://fiir.curs.pub.ro/2019/>
- Tzafilkou, K., Perifanou, M., & Economides, A. A. (2021). Development and validation of a students' remote learning attitude scale (RLAS) in higher education. *Education and Information Technologies*. Scopus. doi: 10.1007/s10639-021-10586-0
- Tzifopoulos, M. (2020). In the shadow of Coronavirus. Distance education and digital literacy skills in Greece. *International Journal of Social Science and Technology*, 5(2), 1-14.

- Vázquez-Cano, E., Urrutia, M. L., Parra-González, M.E., López Meneses E. (2020). Analysis of Interpersonal Competences in the Use of ICT in the Spanish University Context. *Sustainability*, 12, 476. doi: 10.3390/su12020476
- Vogel-Heuser, B., Bi, F., Land, K., Trunzer, E. (2020). Transitions in teaching technical engineering during COVID-19 crisis. *Interaction Design and Architecture(s) Journal*, (47), 27-47.
- Volungevičienė, A., Teresevičienė, M., and Ehlers, U. (2020). When is Open and Online Learning Relevant for Curriculum Change in Higher Education? Digital and Network Society Perspective. *The Electronic Journal of e-Learning*, 18(1), 88-101. doi: 10.34190/EJEL.20.18.1.007
- Yusuf, N., & Al-Banawi, N. (2013). The Impact of Changing Technology: The Case Of E-Learning. *Contemporary Issues in Education Research (CIER)*, 6(2), 173–180. doi: 10.19030/cier.v6i2.7726
- Zachos, G., Paraskevopoulou-Kollia, E.-A., & Anagnostopoulos, I. (2018). Social Media Use in Higher Education: A Review. *Education Sciences*, 8(4), 194. doi: 10.3390/educsci8040194
- Zorić, L., Pivac, T. & Pavkov-Hrvojević, M. (2021). Uticaj online nastave na parametre kvaliteta visokoškolskog obrazovanja u oblasti prirodnih nauka. *Trendovi razvoja: Online nastava na univerzitetima*, Novi Sad.