

CIVIS

A European Civic University



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# INNOVATIVE PEDAGOGIES:

## Ways into the Process of Learning Transformation

### WP 7

Teaching Excellence

### Task Force

Innovative Pedagogies

### Editors:

Lucian Ciolan,  
Romîță Iucu,  
Anca Nedelcu,  
Cosmina Mironov,  
Alexandru Cartîș

All examples of innovative pedagogies have their authors mentioned in the description. Classification, collection and editing of the innovative pedagogies was made by members of the Task Force Innovative Pedagogies.

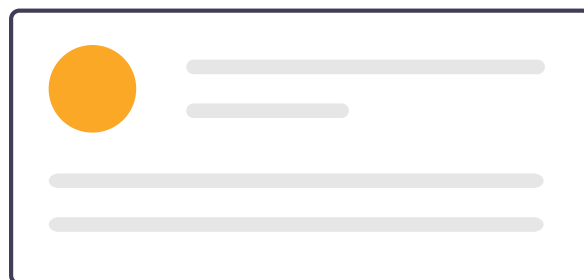
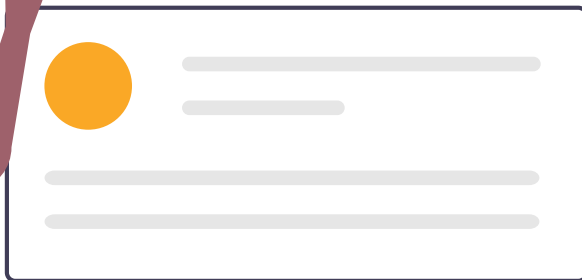
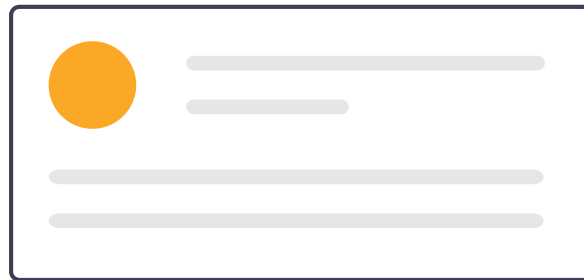


# CONTENTS

<b>01.</b> INNOVATIVE PEDAGOGIES - Background note .....	5
<b>02.</b> INNOVATIVE PEDAGOGIES - Clusters .....	10
<b>03.</b> INNOVATIVE PEDAGOGIES - Clustering CIVIS practices .....	11
<b>04.</b> INNOVATIVE PEDAGOGIES - Tendencies and uses.....	15
<b>05.</b> INNOVATIVE PEDAGOGIES - Description of CIVIS practices.....	17
5.1. Aix-Marseille University .....	17
5.1.1. Virtual role-playing games.....	17
5.1.2. Use of business games for business management training .....	18
5.1.3. Intertandem .....	19
5.1.4. Teacher Educator professional learning with Blended Learning (BLTeae).....	21
5.1.5. Interactive tutorials with Powerlab device and Labtutor software (ADinstruments).....	23
5.1.6. CIVIS project acronym: BULE (Brain (good) Uses for Learning Efficiently).....	24
5.2. National and Kapodistrian University of Athens.....	25
5.2.1. Social Pedagogy: Theory and Practice.....	25
5.2.2. Promoting Democratic Culture through the Curriculum .....	28
5.2.3. Education of Vulnerable Groups: A Syneducational Model for refugee children with their families and students .....	30
5.2.4. Teaching intercultural issues through Theatre in Education .....	34
5.3. University of Bucharest .....	36
5.3.1. Blended learning for higher education teachers.....	36
5.3.2. E-learning .....	39
5.3.3. Inquiry based learning / Problem based learning / learning in real professional context .....	41
5.3.4. Teaching Russian avant-garde: An Innovative Pedagogical Tool.....	43
5.3.5. Applying of Artificial Intelligence algorithms in advanced remote sensing image analysis. Training with ground truth data and developing learning data sets for land cover performant classification .....	45
5.3.6. Interacting of geography / geography of the environment students with the up-to-date geomatic technologies. From surveying and drone photogrammetry to GIS landscape mapping .....	46
5.3.7. Learning remote sensing for landscape mapping with complementary open-data from ESA COPERNICUS satellite imagery .....	47
5.3.8. Off / On-line learning.....	48
5.3.9. From day to day life to the synthesis of an organic compound .....	49
5.3.10. Open-access web-platform on “Visual representations of Romani in 19th and 20th centuries” using visual presentations taken from the archives of the libraries didactic tool) .....	51
5.3.11. Be your selfie in Bucharest. Educational program of urban history for students.....	52

5.3.12. NEWTELP (NEWTON PROJECT) .....	53
5.4. Université libre de Bruxelles.....	55
5.4.1. MultiGram (Multilingual Grammar).....	55
5.4.2. How to Teach (almost) Anything in FabLabs .....	57
5.4.3. TANDEMS .....	59
5.5. Universidad Autónoma de Madrid .....	61
5.5.1. Microvideos in Medicine: Cell Motility – Team Driven Project Based Learning (TD-PBL) .....	61
5.5.2. Mentor Program: teaching, learning and assessment .....	63
5.5.3. Service-Learning .....	65
5.5.4. Social Media: collective interactions to teach Economics – Social Media Based Learning (SM-BL) .....	68
5.5.5. Flipped learning strategies to teach Microeconomics.....	70
5.5.6. Gamification and Class Experiments Based Learning.....	71
5.5.7. Blended learning with SPOC: Basic economic concepts .....	73
5.5.8. Blended learning with MOOC: Organ Transplantation – Ethical and Legal Challenges .....	75
5.5.9. ENCODE: An online learning platform based on spaced repetition .....	76
5.6. Sapienza Università .....	77
5.6.1. Teaching Pedagogy with the Triological Learning Approach .....	77
5.6.2. Experiential learning through clinical scenarios in Bioethics.....	79
5.6.3. Active learning strategies to teach bioinformatics resources and tools for protein interactions.....	81
5.6.4. Directed study programme for exchange students .....	82
5.6.5. Embodied learning in the Medical History through the use of the object-based learning: the ALCMEON Project .....	83
5.7. Stockholm University .....	85
5.7.1. Flipped classroom and electronic response systems.....	85
5.7.2. Making the case for Virtual Law Cases. Introducing an innovative way to teach law.....	86
5.7.3. SciPro – Supporting the Scientific Process.....	87
5.7.4. Source criticism and plagiarism prevention in higher education: analysing Wikipedia practices .....	89
5.8. Eberhard Karls Universität Tübingen .....	90
5.8.1. A practical seminar to organise an alumni fair for computer scientists .....	90
5.8.2. Data literacy for first-year students in economics and business administration .....	92
5.8.3. Explanatory Annotation .....	93
5.8.4. City - Space - Planning: Dynamization and innovation increase of teaching on urban geography and spatial planning through blended learning.....	94
5.8.5. Videos of lecture experiments.....	96
5.8.6. Physics hour .....	97

5.8.7. Collaborative seminar “Conflict Analysis” – Inverted classroom, synchronic and diachronic teaching, participatory learning environment .....	98
5.8.8. Service Learning – Digital Guide for Immigrants in Tübingen.....	99
5.8.9. Service Learning – FAIRstrickt: Online Communication for Fair Fashion .....	101
5.8.10. Creating science comics with students .....	103
<b>A look into the future: CIVIS Lab on Innovative Pedagogies .....</b>	<b>104</b>
<b>Acknowledgments .....</b>	<b>105</b>
<b>References .....</b>	<b>106</b>



# 01. INNOVATIVE PEDAGOGIES

## Background note



Pedagogy is at the heart of teaching and learning. Preparing young people to become lifelong learners with a deep knowledge of subject matter and a broad set of social skills requires a better understanding of how pedagogy influences learning. (Paniagua & Istance, 2018)



There are multiple factors influencing learning and students' achievement, but high among them is the quality of the lived learning experience, the authentic interaction of teachers and learners. When we talk about innovative pedagogies, we refer to the explicit call to imagination in designing, facilitating and debriefing learning processes. While keeping a reasonable focus on knowledge, skills and attitudes, innovative pedagogies are going beyond by engaging strategies, methods and tools that create a balanced and effective ecosystem for learning, and therefore ensuring three basic conditions for learners (see Ciolan, 2014):

- › **Readiness:** to have a calm mind, having the trust and the confidence in the process.
- › **Willingness:** being motivated and interested, having a natural or nurtured curiosity, determination to find answers to questions or problems.
- › **Capacity / capability:** An individual can train his learning capacity by always be aware of any learning opportunity and using it as a change agent in his personal development and growth process. This capability (capacity and ability), often named «learning to learn,» includes various technical knowledge and tools and the motivation to pursue when learning is challenging.

While there is a widespread consensus about the competences students might acquire for coping with today's challenging world, it is still an open space for debates and improvements about the best ways schools and universities can approach in a more creative and innovative way such development targets. Defining which sets of innovative pedagogical approaches can efficiently

guide teaching and transform learning is quite a challenging attempt, due to the complexity of such broad and multi-faceted concepts and of nowadays' dynamic of educational ecosystems.

Despite such difficulty, the reflection on the topic is a certain pedagogical priority: "Creativity and innovation in education are not just an opportunity, but a necessity" (Ferrari et al., 2009, pg. 47). Moreover, creativity, innovation, and entrepreneurship are the foundation of the knowledge and education triangles (EC, 2008). They are considered essential skills to be developed in the context of lifelong learning, as stated by the European Commission paper on Lifelong learning for creativity and innovation (EC, 2008).

Innovation implies newness, and newness is something that cannot be explained without correlating it with precise contexts, identities, and beliefs (Gilbert, Tait-McCutcheon, & Knewstubb, 2020). Trying to understand how we can identify pedagogical innovations and analyse them, Walder (2014) mentions seven notions related to the concept: novelty, change, reflection, application, improvement, technology, and human relations.

Considering innovation in correlation with existing educational practices, especially in higher education contexts, some authors consider that any action or involvement for enhancing learning can be considered a matter of innovation in teaching and learning. "Innovation is a deliberate activity which tends to introduce novelty into a given context, and it is educational because it seeks to improve the learning of students in a situation of interaction and interactivity. In a university context, educational

innovations are often described as anything that does not fall under formal teaching, a method still used by a very large majority of professors” (Bécharde et Pelletier, 2001, p. 133).

The challenging educational environment created by the Covid-19 Pandemic provoked teachers, educational institutions, and policy makers to identify new ways for achieving success in teaching and learning. The same necessity for innovation and development of educational systems and practices is addressed in the recent OECD’s Back to the Future of Education Report: “in education, there is a push to make our systems more innovative and our teachers more creative” (OECD, 2020, p. 66).

It is fascinating how so many teacher educators internationally have seen the current crisis as an opportunity to consider new ways of working, to adopt innovative approaches to pedagogy and to re-conceptualise the nature of their teacher education programmes. (Mutton, 2020, p. 1)

Establishing a precise definition for innovative pedagogies is not a simple matter, especially because, as mentioned by Smith (2011), it is a “diffuse and slippery” task. According to Derijan & Valchev (2012) as cited in Mynbayeva, Sadvakassova, & Akshalova (2017, p. 9), all innovations in pedagogy unite:

- › the belief that the human potential is unlimited;
- › the pedagogical approach aimed at mastering reality in the systems;
- › stimulation of nonlinear thinking;
- › the joy of achievement – the pedagogy of success;
- › the mobile role-playing field of the teacher (the teacher simultaneously teaches and learns from the student).

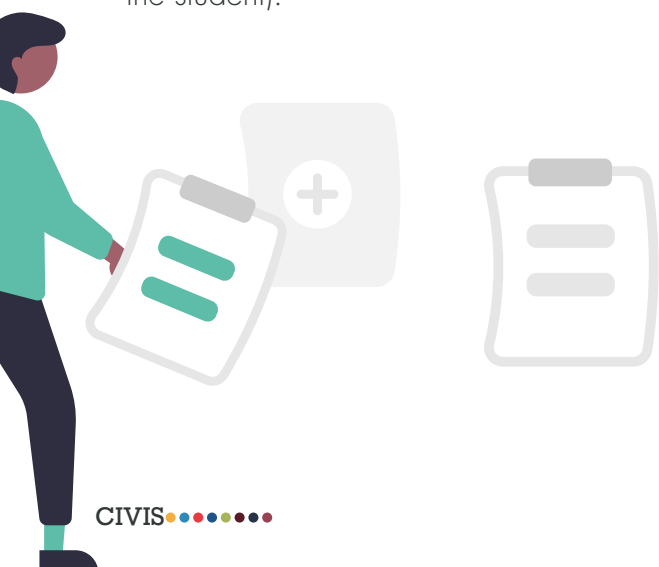
Averill and Major (2020, p. 148) notice that defining innovative pedagogies is not regarded as something easy, mentioning that “it is a recurrent challenge in much of the literature”. Without succeeding to build up a one phrase definition, they mention a series of characteristics that could represent the most important aspects illustrating what innovative pedagogies truly are:

- › planned and intentional;
- › new, in the sense of being a departure from what has been done before;
- › intended to improve student learning and achievement.

Addressing the concept of “innovative pedagogies” implies understanding what the idea of “innovative” means and what are the elements that create innovation.

From a general perspective, innovative pedagogies are focused on creating stimulating and conducive learning environments where good, relevant, and robust learning can occur. When attempting to deepen the concept’s understanding, one can notice that the concepts are not easily defined. Some opinions emphasise the creative and generative potential of teaching practices and environments, others are focused on the use of creative methods and techniques or, in some cases, on technology-enhanced learning. The concept of pedagogical innovation is tangent with the idea of innovative and creative teaching, reflecting the process of leading to creative learning, by implementing new methods, tools, and contents that can benefit learners and their creative potential (Ferrari et al., 2009).

Averill and Major (2020) mention that many of the interviewed teachers were asking themselves whether or not their own teaching practices represented pedagogical innovations, considering that the contextualised nature of innovation is a major aspect to be considered when conceptualising innovative pedagogies. In this regard, they stated that a certain practice might be considered innovative in one context, and the same practice can be not so or not at all innovative in a different teaching context.



Even if we cannot call it a generally accepted definition of what innovative pedagogies are, the following statement represents an important perspective on how they can be described in a single phrase (Burden, Kearney, Schuck, & Hall, 2019, p. 84): “Innovative practices are ones that are different from accepted and conventional practices, and include the effective use of new technologies to promote 21st century skills of creativity, communication, collaboration and critical thinking.”

A different defining point of view (Mynbayeva, Sadvakassova, & Akshalova, 2017, p. 8) describes innovative pedagogies as “methods of teaching that involve new ways of interactions between ‘teacher-student’, a certain innovation in practical activity in the process of mastering educational material.”

Additionally, it is important to underline two important distinctions. Innovative pedagogy is not equivalent to “new” teaching. Innovative teaching is often associated with a “new” method or strategy, but not all new methods and strategies are necessarily innovative (Ferrari et al., 2009). And, at the same time, innovative pedagogies are not strictly related with the use of technology, even if, usually, digital support is embedded in the teaching process.

The term “innovative pedagogies” is being used with increased frequency in relation to the learning results (knowledge, skills, responsibility and autonomy or knowledge, skills, attitudes and values) that are needed for today’s students to thrive and shape the world, create and contribute to a better future, as well as how instructional systems can effectively develop them.

Many of the so-called innovative pedagogies call for curricula where students take an active role in managing their learning; they are expected to develop the habits of metacognition in terms of knowing what one knows and what one needs to understand better. (Peterson, 2018, p. 9)

To understand the real nature of pedagogical innovations, we must address the idea that such aspects cannot be seen as outcomes or products of some individuals, but rather as a process in which innovative teachers engage. Seeing innovations as such, we can further analyse what are the main factors contributing or constraining this innovative process, grouped in five decontextualised themes:

the teacher, the institution, colleagues, students, and the environment (Gilbert, Tait-McCutcheon, & Knewstubb, 2020).

The relationship between the beneficial and nonbeneficial factors influencing the presence and use of innovative pedagogies in the educational practices must be addressed with great responsibility. There is evidence showing that teachers are eager to implement more active, innovative forms of education, understanding how important it is to meet the diverse learning needs of their students, but, in some cases, “due to a myriad of constraints, teachers often resort to more traditional, conservative approaches to teaching and learning” (Herodotou et al, 2019, p. 2).

The research conducted by Averill and Major (2020) shows that there are four main needs that, if satisfied, can provide an adequate environment for nurturing innovative pedagogies among teachers and their teaching practices:

- › the need for competence;
- › the need for autonomy;
- › the need for relatedness; and
- › wellbeing as an outcome.

Implementing innovative pedagogies requires not just a straight-line approach, but a combination of the cultural and national uniqueness with general teaching pedagogy. Moreover, granting a more context-appropriate facet to the innovation, we must make use of the teacher’s reflective interpretation (Istance & Paniagua, 2019).

Even more, we can understand that particular innovative pedagogies are placed on a continuum, with the ones that modify the existing pedagogies at one end, sometimes called sustaining or incremental innovations, and the ones that create new practices, unlike any used before that moment (Burden, Kearney, Schuck, & Hall, 2019).

For higher education (HE), the challenges ahead are great if we only consider those related to the teaching dimension in relation to professionalisation and social responsibility roles: reinforcement of the professional dimensions of training (transfer of learning), high level learning experiences for HE students, use of technologies in education, development of European civic professionals.

At this point, it is highly necessary to create robust evidence related to innovative pedagogies at HE level and how they can respond to the current challenges, in order to develop, apply and scale best practices within study programmes.

The necessity of pedagogical innovation in HE is not something that appeared in these challenging times. Aspects like the changing nature of the student population and learning environments forwarded the idea that traditional approaches to teaching may not be able to satisfy the educational needs of today's learners (Barnett, 2012). It is shown that one of the methods of ensuring HE sustainability is by creating academic networks and, by their use, sharing and exchanging best practices, adopting innovative methods of teaching and pedagogies, inculcating skills and attitudes among the students so that they can become global and responsible citizens (Sahasrabudhe, Shaikh, & Kasat, 2020).

A solid process aiming at interrogating the innovative pedagogies, networks and strategies should be established, while, without a core framework, the risk of generating a multitude of interesting, but unconnected insights, is high.

A significant example of framing innovative pedagogies is related to OECD's project "Innovative Pedagogies for Powerful Learning" (IPPL) within which was developed the following "Cs" framework (<https://www.oecd.org/education/ceri/innovative-pedagogies-for-powerful-learning-the-5-cs.htm>):

- › Combinations – Pedagogical approaches
- › Content – Pedagogies for what?
- › Context matters
- › Connoisseurship – Expert application
- › Change – Embedding innovative pedagogies

Such a framework would reinforce the importance of pedagogy and practices on the ground that most directly influence learning. However, there is a need for a detailed understanding of the pedagogical choices that stand at the heart of innovative, powerful learning environments while moving beyond simplistic dichotomies like traditional vs. non-traditional or direct instruction vs. constructivist. To seriously address the aspect of pedagogical innovations, shifting models are entailed for "teacher development, workforce, and

schools, and pursuing pathways for expanding this change broadly" (Istance & Paniagua, 2019, p. 52).

In OECD's Teachers as Designers of Learning Environments. The Importance of Innovative Pedagogies (Paniagua & Istance, 2018, p. 79), the following relevant innovative pedagogies clusters are being referred to:

- › Blended learning – Rethinking the purpose of the classroom and classroom time
- › Gamification – Engagement through play and the pedagogies of games
- › Computational thinking – Problem-solving approach through logic
- › Experiential learning – Inquiry in a complex world
- › Embodied learning – Capitalising on creativity and emotions
- › Multiliteracies and discussion-based teaching – Fostering critical thinking and questioning

We must invoke the importance of these clusters, especially because they achieve, according to Istance and Paniagua (2019, p. 15), two major things:

1. they work as a matrix to group teaching approaches and identify general pedagogical approaches; and
2. they retain practice at a level so that it translates learning principles into specific teaching practice to achieve the new learning goals, without falling into ready-made prescriptions.

The same authors (Istance & Paniagua, 2019, p. 36) mention three structural changes within the educational systems that have a great potential for emboldening the successful development of innovative pedagogies across the clusters mentioned above:

1. investing in teacher professional development to ensure the foundations of quality teaching;
2. widening the profile of educators; and
3. supporting new school models that use arrangements that are hybrids between formal and non-formal learning.

Even though a certain threshold of quality teaching is not required for introducing innovative pedagogies in the educational activities, experiencing with



these innovations can bolster quality teaching. Early exposure to environments and professional experiences with teaching innovation is considered as an important aspect for the teaching staff, notably from the beginning of their teaching career (Paniagua & Sánchez-Martí, 2018). Even so, exposure to innovative environments and practices does not alone assure quality teaching. As seen above, there are more factors that influence the whole process. Nonetheless, exposure to innovative pedagogies lays important foundations for quality teaching practices and enhances specific capabilities and interests in this direction.

The 2020 edition report from the Open University, exploring new forms of teaching, learning, and assessment for an interactive world, in order to guide teachers and policy makers in productive innovation, proposes, under the title “Innovating pedagogy”, a list of new educational concepts, terms, theories, and practices and pares them down to ten that have the potential to provoke major shifts in educational practice (Kukulska-Hulme et al, 2020):

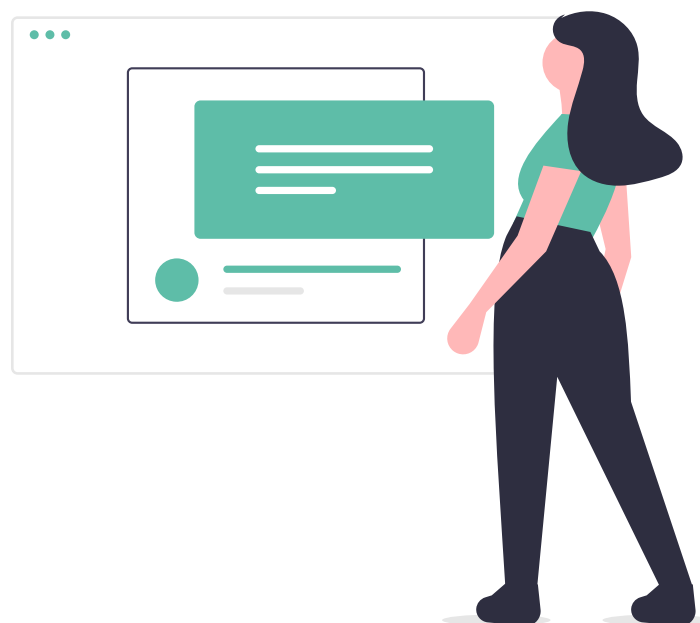
1. Artificial intelligence in education – Preparing for life and learning in the age of AI
2. Post-humanist perspectives – Confronting the relationship between humans and technology
3. Learning through open data – Using real-world data for personally relevant learning
4. Engaging with data ethics – Ethical use of data in digital life and learning
5. Social justice pedagogy – Addressing injustices in lives and society
6. Esports – Learning and teaching through competitive virtual gaming
7. Learning from animations – Watching and interacting with short animations
8. Multisensory learning – Using several senses to enhance learning
9. Offline networked learning – Networked learning beyond the Internet
10. Online laboratories – Laboratory access for all

By looking into the future and trying to predict what will happen, we also shape that future. We hope these ten pedagogies will play a part in shaping the future of teaching and learning, and in opening possibilities for learners and teachers around the world. (Ferguson et al, 2019, p. 7)

Open University (with their associates) are publishing lately such a report every year.

The growing quantity of reports and literature on the topic of innovative pedagogies reflects (probably to a much-reduced scale) the efforts of thousands of researchers and practitioners at all levels, their numerous successes and failures, but also their persistence in finding “the way”. There are multiple ways to achieve and be successful in learning, changing and dynamic ways that make pedagogy a difficult science, not producing recipes, but always providing reference frames, milestones, and plenty of space for imagination.

In CIVIS we try to acknowledge the importance of innovative pedagogies and their role in celebrating imagination and designing authentic learning experiences by professors, students, researchers, and any other stakeholders in the process. Based on our analysis here, we will develop a training package and a series of workshops to stimulate and enable academics to embrace with confidence pedagogical innovation, having regard that, in any case, “The skill set of the professional educator will shift towards expertise in pedagogy: understanding with precision how people learn, and how learning opportunities need to be designed to facilitate this process” (Hannon, 2009, p. 8).



# 02. INNOVATIVE PEDAGOGIES

## Clusters

As shown before, there are already some approaches or taxonomies for clustering innovative pedagogies. In CIVIS, we had a classical but productive approach, partially inspired by grounded theory principles. We made a flexible framework to identify and collect examples of practice from our universities, based on a common understanding of the concept, previously agreed. Inspired primarily by the collective practices, but also reviewing the existing literature, we came up with five clusters of innovative pedagogies, four of which are already defined, and one “free” cluster (not defined / described).

After collecting the examples, and the clusters, we have allocated the cases to one, two or three clusters, according to their specificity.

### a) Technology-based pedagogical innovation

- › Online / digital: OER, platforms (MOOCs), blended learning, online laboratories, artificial intelligence in education
- › Augmented Reality (AR) and Virtual Reality (VR): Virtual Learning Environment (VLE), Multisensory learning
- › Labs: FabLab, Makerspace, Science in remote labs, Open labs

### b) Methodology-based pedagogical innovation

- › Flipped / Reverse / Parallel learning and classroom
- › Experiential learning design / design thinking / universal design
- › Game- / Play-based learning

### c) Skill-based pedagogical innovation

- › Cognitive skills: learning analytics, making thinking visible, computational thinking
- › Non-cognitive development innovations: learning experiences addressing emotional and social development, cultural awareness, empathy, etc.

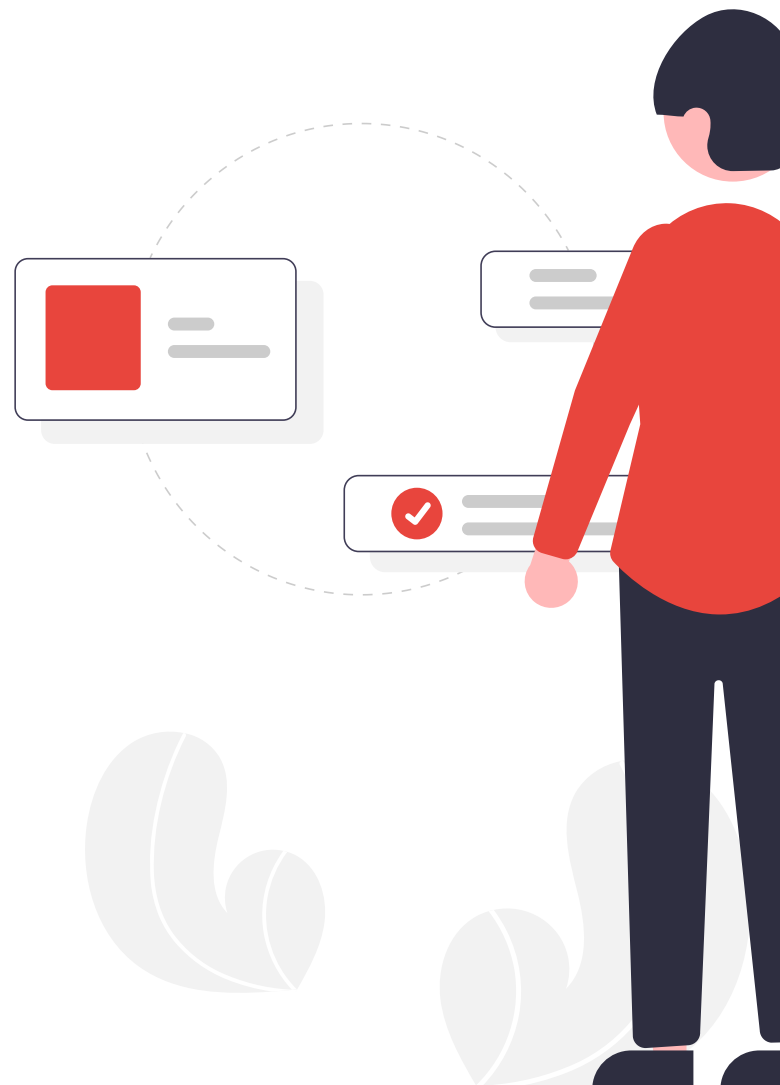
- › Transversal / Transferable skills driven innovations: stimulation of entrepreneurship, creativity, intercultural communication, etc.
- › Core professional skills: i.e. medical skills

### d) Context driven pedagogical innovation / real-world driven pedagogical innovation

- › Community-based learning, service learning
- › Real-world: project-based, problem-solving

### e) Others (please describe in brief) – examples that don't fall in any of the above

This clustering model is used only as a framework for better understanding the focus and characteristics of a pedagogical approach, so it should not be regarded as restrictive or rigid in nature.






## 03. INNOVATIVE PEDAGOGIES




### Clustering CIVIS practices



All examples of innovative pedagogies collected and documented by all eight universities of the CIVIS Network are just a few relevant examples. Many other initiatives and innovations are conducted every day. The cases here are nothing but examples of ways into the process of pedagogical innovation that proved to work in their precise contexts. Mapping

out the landscape of pedagogical innovations, at this stage, was just an initial endeavour that will be followed by much more extensive and systematic review, documentation of impact, training, and stimulation programmes, in order for academics to adhere to these processes.

University	Innovative Pedagogy	Cluster(s)
 <b>Aix-Marseille University</b>	Virtual role-playing games	a) Technology-based pedagogical innovation b) Methodology-based pedagogical innovation
	Use of business games for business management training	b) Methodology-based pedagogical innovation c) Skill-based pedagogical innovation
	Intertandem	c) Skill-based pedagogical innovation
	INSPE- Educational studies	a) Technology-based pedagogical innovation
	Interactive tutorials with Powerlab device and Labtutor software (ADinstruments)	a) Technology-based pedagogical innovation
	CIVIS project acronym: BULE	b) Methodology-based pedagogical innovation c) Skill-based pedagogical innovation
 <b>National and Kapodistrian University of Athens</b>	Social Pedagogy: Theory and Practice	c) Skill-based pedagogical innovation d) Context-driven pedagogical innovation / real-world driven pedagogical innovation
	Promoting Democratic Culture through the Curriculum	c) Skill-based pedagogical innovation d) Context-driven pedagogical innovation / real-world driven pedagogical innovation
	Education of Vulnerable Groups: A Syneeducational Model for refugee children with their families and students	d) Context-driven pedagogical innovation / real-world driven pedagogical innovation b) Methodology-based pedagogical innovation c) Skill-based pedagogical innovation
	Teaching intercultural issues through Theatre in Education	b) Methodology-based pedagogical innovation c) Skill-based pedagogical innovation

University	Innovative Pedagogy	Cluster(s)
 <b>University of Bucharest</b>	Blended learning for higher education teachers	a) Technology-based pedagogical innovation c) Skill-based pedagogical innovation
	E-learning	a) Technology-based pedagogical innovation d) Context-driven pedagogical innovation / real-world driven pedagogical innovation
	Inquiry-based learning / Problem-based learning / Learning in real professional context	b) Methodology-based pedagogical innovation
	Teaching Russian avant-garde: An Innovative Pedagogical Tool	
	Applying of Artificial Intelligence algorithms in advanced remote sensing image analysis. Training with ground truth data and developing learning data sets for land cover performant classification	a) Technology-based pedagogical innovation
	Interacting of geography / geography of the environment students with the up to date geomatic technologies. From surveying and drone photogrammetry to GIS landscape mapping	a) Technology-based pedagogical innovation c) Skill-based pedagogical innovation
	Learning remote sensing for landscape mapping with complementary open data from ESA COPERNICUS satellite imagery	a) Technology-based pedagogical innovation c) Skill-based pedagogical innovation
	Off / On-line learning	c) Skill-based pedagogical innovation
	From day to day life to the synthesis of an organic compound	d) Context-driven pedagogical innovation / real-world driven pedagogical innovation
	Open-access web-platform on "Visual representations of Romani in 19th and 20th centuries" using visual representations taken from the archives of the libraries (didactic tool)	a) Technology-based pedagogical innovation c) Skill-based pedagogical innovation
	Be your selfie in Bucharest. Educational program of urban history for students	c) Skill-based pedagogical innovation
	NEWTELP (NEWTON PROJECT)	a) Technology-based pedagogical innovation b) Methodology-based pedagogical innovation

University	Innovative Pedagogy	Cluster(s)
 Université libre de Bruxelles	MultiGram (Multilingual Grammar)	a) Technology-based pedagogical innovation
	How to Teach (almost) Anything in FabLabs	a) Technology-based pedagogical innovation
	TANDEMS	c) Skill-based pedagogical innovation
 Universidad Autónoma de Madrid	Microvideos in Medicine: Cell Motility. A Team Driven Project Based Learning	b) Methodology-based pedagogical innovation c) Skill-based pedagogical innovation
	Mentor Program: teaching, learning and assessment	c) Skill-based pedagogical innovation e) Other
	Service-Learning	d) Context-driven pedagogical innovation / real-world driven pedagogical innovation
	Social Media: collective interactions to teach Economics. Social Media Based Learning (SM-BL)	a) Technology-based pedagogical innovation
	Flipped learning strategies to teach Microeconomics	b) Methodology-based pedagogical innovation
	Gamification and Class Experiments Based Learning	b) Methodology-based pedagogical innovation
	Blended learning with SPOC: Basic economic concepts	a) Technology-based pedagogical innovation
	Blended learning with MOOC: Organ Transplantation – Ethical and Legal Challenges	a) Technology-based pedagogical innovation
 Sapienza Università di Roma	ENCODE: An online learning platform based on spaced repetition	a) Technology-based pedagogical innovation
	Teaching Pedagogy with the Triological Learning Approach	b) Methodology-based pedagogical innovation c) Skill-based pedagogical innovation
	Experiential learning through clinical scenarios in Bioethics	b) Methodology-based pedagogical innovation
	Active learning strategies to teach bioinformatics resources and tools for protein interactions	b) Methodology-based pedagogical innovation
	Directed study programme for exchange students	c) Skill-based pedagogical innovation
Embodied learning in the Medical History through the use of the object-based learning: the ALCMAEON Project	c) Skill-based pedagogical innovation a) Technology-based pedagogical innovation	

University	Innovative Pedagogy	Cluster(s)
 <b>Stockholm University</b>	Flipped classroom and electronic response systems	b) Methodology-based pedagogical innovation a) Technology-based pedagogical innovation
	Making the case for Virtual Law Cases. Introducing an innovative way to teach law	b) Methodology-based pedagogical innovation c) Skill-based pedagogical innovation
	SciPro - Supporting the Scientific Process	a) Technology-based pedagogical innovation e) Other
	Source criticism and plagiarism prevention in higher education: analysing Wikipedia practices	c) Skill-based pedagogical innovation d) Context-driven pedagogical innovation / real-world driven pedagogical innovation
 <b>Eberhard Karls Universität Tübingen</b>	A practical seminar to organise an alumni fair for computer scientists	c) Skill-based pedagogical innovation d) Context-driven pedagogical innovation / real-world driven pedagogical innovation
	Data literacy for first-year students in economics and business administration	b) Methodology-based pedagogical innovation a) Technology-based pedagogical innovation
	Explanatory Annotation	c) Skill-based pedagogical innovation a) Technology-based pedagogical innovation
	City - Space - Planning: Dynamization and innovation increase of teaching on urban geography and spatial planning through blended learning	a) Technology-based pedagogical innovation
	Videos of lecture experiments	a) Technology-based pedagogical innovation
	Physics hour	b) Methodology-based pedagogical innovation
	Collaborative seminar "Conflict Analysis" – Inverted classroom, synchronic and diachronic teaching, participatory learning environment	a) Technology-based pedagogical innovation b) Methodology-based pedagogical innovation
	Service Learning – Digital Guide for Immigrants in Tübingen	d) Context-driven pedagogical innovation / real-world driven pedagogical innovation c) Skill-based pedagogical innovation
	Service Learning – FAIRstrickt: Online Communication for Fair Fashion	d) Context-driven pedagogical innovation / real-world driven pedagogical innovation c) Skill-based pedagogical innovation
	Creating science comics with students	b) Methodology-based pedagogical innovation

# 04. INNOVATIVE PEDAGOGIES

## Tendencies and uses

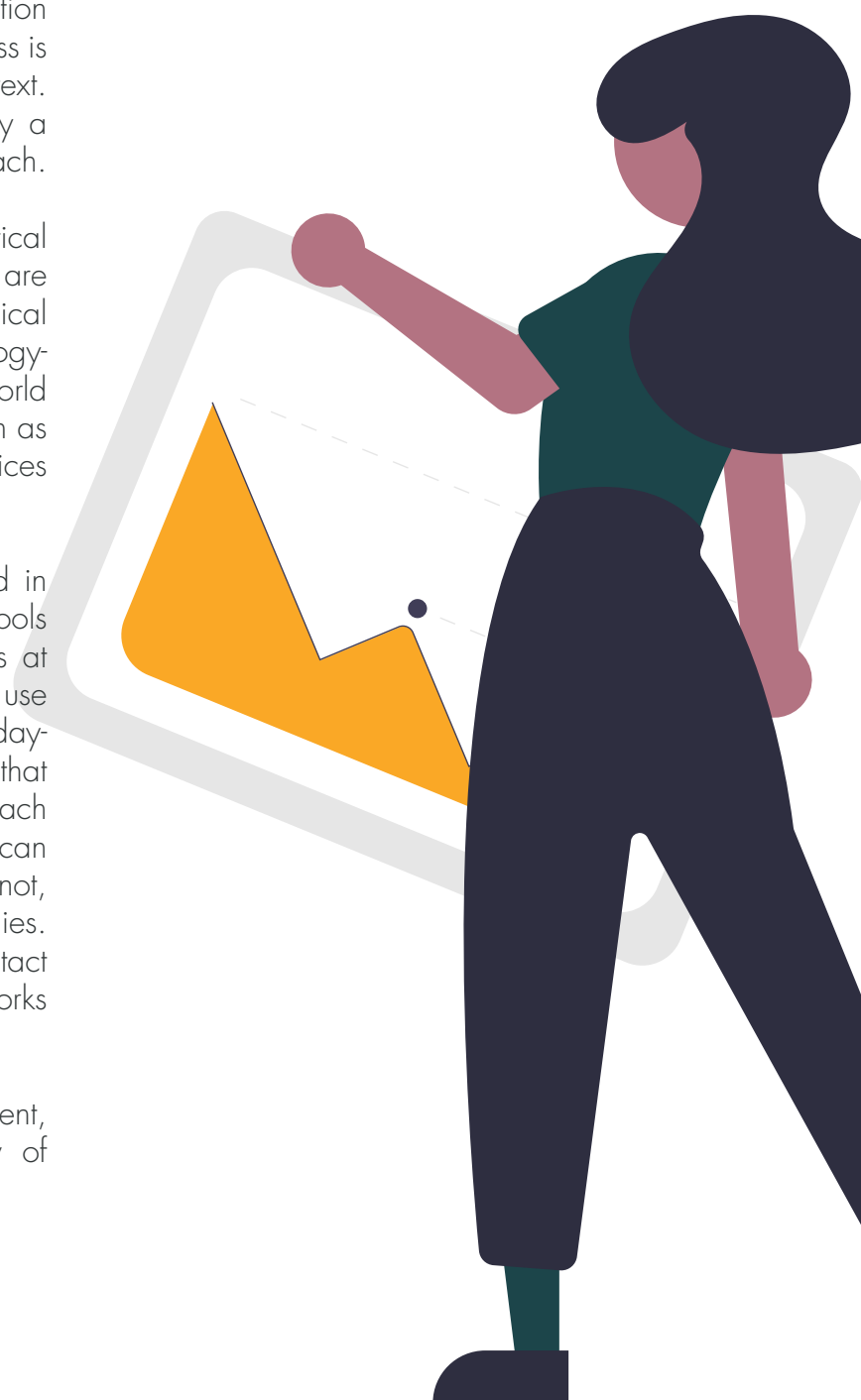
Clustering these innovative pedagogies practiced by the CIVIS universities shows us what are the broad tendencies on the matter of interest and perspective for innovating educational practices at HE level. We notice that many of the innovations mentioned above are not just single type practices, but also pedagogical innovations that address two or three innovation types. Of course, such an aspect does not state that pedagogies clustered in a single type are better or not than those covering multiple types. As seen in the background note, innovative pedagogies embody a strong contextualisation characteristic, meaning that the practice's success is given by its impact in a precise educational context. Belonging to a cluster or more, shows merely a tendency, a dominance in the respective approach.

Viewing these practices from a mathematical perspective, we notice that most of them are skill-based and technology-based pedagogical innovations, followed closely by methodology-based ones. The number of context / real-world driven pedagogical innovations are not as high as the other, but that does not mean that such practices are not relevant for innovating HE.

The innovative pedagogies examples included in this clustering represent powerful and useful tools for improving teaching and learning practices at HE level. Teachers and practitioners can make use of these innovations and adopt them in their day-to-day activities. In this regard, we consider that by having access to detailed descriptions of each of the mentioned practices, educationalists can improve their pedagogical practices and, why not, develop new and fresh innovative pedagogies. For each case / example, we provided contact persons, hoping that we can slowly create networks of collaborative peer learning and exchange.

In today's challenging educational environment, modeled by the Covid-19 Pandemic, many of

the innovative pedagogies encompassed in this document bring modern and useful examples of how learning can thrive even in such difficult contexts. Most of these practices can be reloaded in virtual environments and can facilitate successful learning situations in a variety of ways and styles. As seen in the descriptions bellow, most of these practices offer valuable possibilities for virtual mobility and multilingual learning contexts,



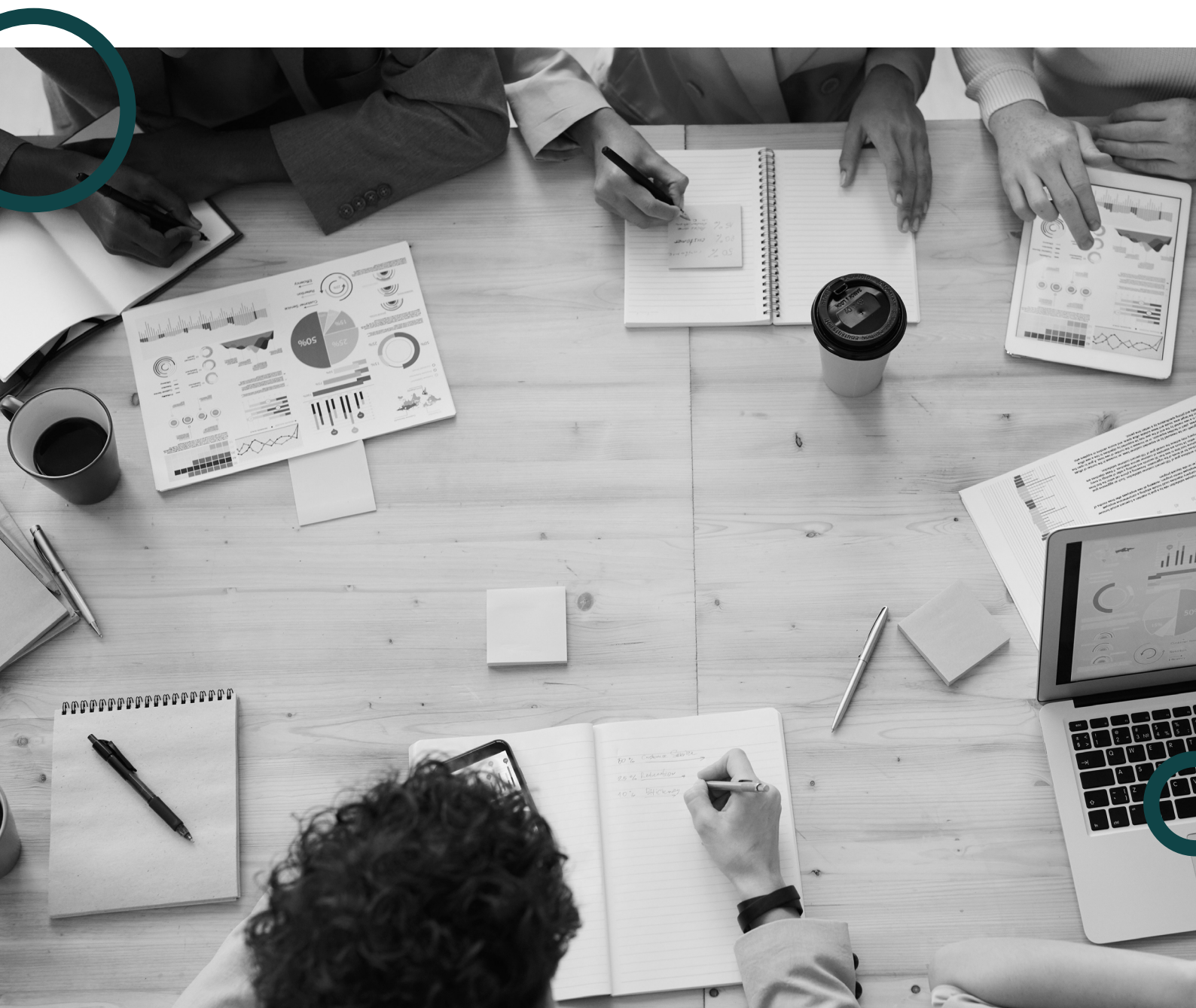
either through gamification, virtual labs, virtual platforms, blended-learning activities, videoconferences, telepresence systems, open-access modules, online workshops, virtual networks, e-mentoring, online service-learning, social media learning, e-tutoring, webcomics etc.

Regarding how these practices can be shared with others and, by this approach, assuring that further innovations are to be developed, most of these practices offer the possibility to train other professionals in the field of education. We consider that providing the necessary skills belongs to the same paragraph an important characteristic for any innovative procedure, placing great importance on how these practices can inspire and encourage innovations.

Our idea is to create a network of pedagogical

innovation centres, in which each university can choose where they consider to have expertise in mentoring others and facilitating learning workshops for colleagues, and where are they willing to learn from their peers. This network will be called Innovative Pedagogies Lab, physically based in the University of Bucharest, but being composed of specialists from the Task Force on Innovative Pedagogies, having their own network of innovation champions in their own universities.

In the next chapter, we are presenting in detail the collection of innovative pedagogies, collected and clustered as shown before, as a space of inspiration for others, but also as a starting point for an open and more reachable inventory, at the disposal of anyone interested.





# 05. INNOVATIVE PEDAGOGIES

## Description of CIVIS practices

### 5.1. Aix-Marseille University

#### 5.1.1. Virtual role-playing games

##### Faculty / domain

IUT / language department | Faculty of Medicine  
/ 3rd year training

##### Brief description

Role-playing game: a board game where the Game Master stages an adventure, often a quest, a challenge, in an imaginary or real setting, based on a scenario already available or invented.

The players / students, in small sub-groups of 5 or six, collectively elaborate a fiction through a permanent dialogue between themselves and with the GM, according to the rules set by the GM. They constantly interact as the authors, actors and unique spectators of an ephemeral story developed in a collective process, an imaginative «maelstrom». Objective: Spoken and written production in the target language, vocabulary acquisition, knowledge acquisition, exchange of information, communication practice.

RPGs can be used in many learning contexts, as proven in the experiments performed at AMU, at the Faculty of Medicine as well as with Computer students.

The students commit themselves to using only the target language, besides, they are solely responsible for the unfolding of the game: the volume and quality of their linguistic production is proof that RPGs are effective teaching tools. The teacher only provides the framework and feedback.

##### Impacted learning results

Role-playing games are popular, and students ask for more of that kind of learning modules. They consider that they learned a lot more than when they are attending a classic course. At the end of the game, they feel that they have understood the

various points of view of the individuals in charge of dealing with the proposed problem.

RPGs are extraordinary, formidable vectors of discussion involving the three major factors of motivation: autonomy, competence, and social interaction.

RPGs promote a feeling of self-efficacy, which is crucial for motivation added to the pleasure of creating together and a reduction of stress.

##### Language

Virtual role-playing games can be played in every language and represent very good tools for international teaching of languages and foreign cultures. The interaction between students from the various participating countries would be an ideal way of promoting mutual understanding and collaboration. Participants must opt for a common language. However, in the future, we can consider using automatic translation.

##### Virtual mobility

During the COVID-19 pandemic, role-playing games were conducted in a virtual mode. As an example, it has been set up for students learning English. It has also been successfully performed by 3rd year medical students who, for 4 hours, shared their knowledge on a psychiatric disease, namely bipolar disorders.

##### Opportunity to train others

Academics are now familiar with role-playing games. The translation into a virtual mode does not require any specific training.

##### Contact

› Josee Vaquieri (English):  
[josee.vaquieri@univ-amu.fr](mailto:josee.vaquieri@univ-amu.fr)

› François Féron (School of Medicine):  
[francois.feron@univ-amu.fr](mailto:francois.feron@univ-amu.fr)

## 5.1.2. Use of business games for business management training

### 🏠 Faculty / domain

Faculty of Economics and Management | Faculty of Letters / technological fields

### 📄 Brief description

For the past few years, we have been widely using and developing business games within the university. This kind of tool allows small groups of students to be confronted with the practice of business management and to be confronted with decision making in a virtual company. This activity allows them to get a first-hand experience of the real and transversal issues of company management (stock management, negotiation, production, finance, CSR, etc.). Moreover, being in competition, the teams find a playful aspect that motivates the will to succeed.

This tool can be used for very different lengths of time (from 3 days full time to several months on a regular basis), at very different levels (Bachelor's and Master's degrees) and for both expert and novice users. Of course, we use these tools very regularly in the Faculty of Economics and Management, but also in the Faculty of Letters or in technological fields (network and telecommunication training for example).

Recently we have also developed a business game in economics to put groups of students in a decision-making situation regarding a country's macro-economic policies.

### 🕒 Impacted learning results

Business games are generally very popular with students because they put into practice concepts that they may have seen previously, and this allows them to understand the different links between all these concepts. Moreover, if knowledge is added during the simulation, the students are more attentive to it than in a classic course because they can immediately practice the notions taught.

### 🗣️ Language

French / English

### 📱 Virtual mobility

These simulations are used in a face-to-face setting, but some teachers use this tool to involve several universities in the same simulation. Recently, with Covid19, many simulations have been carried out remotely.

### 🔄 Opportunity to train others

Possible to train others in the use of these tools.

### ✉️ Contact

> Ian Gambini:  
[ian.gambini@univ-amu.fr](mailto:ian.gambini@univ-amu.fr)



### 5.1.3. Intertandem

#### Faculty / domain

ALLSH | FDSP | FEG | IUT | Medicine | Sciences

#### Brief description

The general pedagogic objective of this innovative pedagogy is to provide support for students before or during their mobility. The overall project branches out into four directions:

- For outgoing mobility, create a new channel for disseminating information on international mobility, both academic and professional audiences
- Promote the integration of incoming students
- Develop students' skills in a foreign language, intercultural competence, learn-to-learn skills (learner autonomy)

This project concerns students in humanities, languages, law, economy, technology, health, sciences.

The course is based on the Tandem method. In this context, two students of different mother tongues meet to interact in both languages to help each other in their learning. In these meetings, students will have to perform tasks aimed at developing intercultural competence. The tandems take place on-site (AMU and international students) or through videoconference with partner universities. Learners are supported in developing their learning autonomy to develop transversal learn-to-learn skills for lifelong learning. A trained tutor supervises groups of tandems with individual interviews at the beginning and the end of their semester and through supervision of a collaborative blog where each student reflects on its learning strategy and compares them with the others' ones.

The course also includes conferences from staff of the DRI, Région SUD, CRIJ and professionals from local bodies working in an intercultural environment. The evaluation is based on tools developed by the European Commission and the Council of Europe, such as the European Language Portfolio, which allow to better prepare students for employment.

What makes the example innovative?

It is the first organized in AMU to develop individual learning for the development of language, intercultural and learn-to-learn skills for the students of all faculties. It is also innovative since it has built a partner universities network, especially within the CIVIS consortium.

#### Impacted learning results

Data collection to evaluate the results is completed. We now have students' questionnaires after the end of their participation (two iterations. n=114+58). Descriptive statistics show the satisfaction of students for taking part in the learning pathway. We also have collected the individual sheets of students' initial and final interviews, which provide indications on the language proficiency level, intercultural competence, and learn-to-learn competence (autonomy). However, we have not analysed them yet.

Indirect evaluation of the project outcomes comes from publications in international journals and books. Analysis shows a potential for developing learner autonomy and intercultural competence. (Cappellini, Eisenbeis & Rivens Mompean, 2016; Nogueira Garcia, O'Connor & Cappellini, 2017; Cappellini, 2019; Cappellini, Elstermann & Rivens Mompean, 2020; Cappellini & Macré, 2020).

#### Language

16 languages, including all the CIVIS languages except Swedish

#### Virtual mobility

Within CIVIS: Aix-Madrid, Aix-Brussels(-Montréal) (pilot), Aix-Tübingen, Aix-Rome (pilot), Aix-Athens (pilot), Aix-Bucharest (pilot).

Pilots are virtual mobility with less than 10 students.

Outside CIVIS: Marseille-Florence, Marseille-Miami, Aix-London (King's College)

## Opportunity to train others

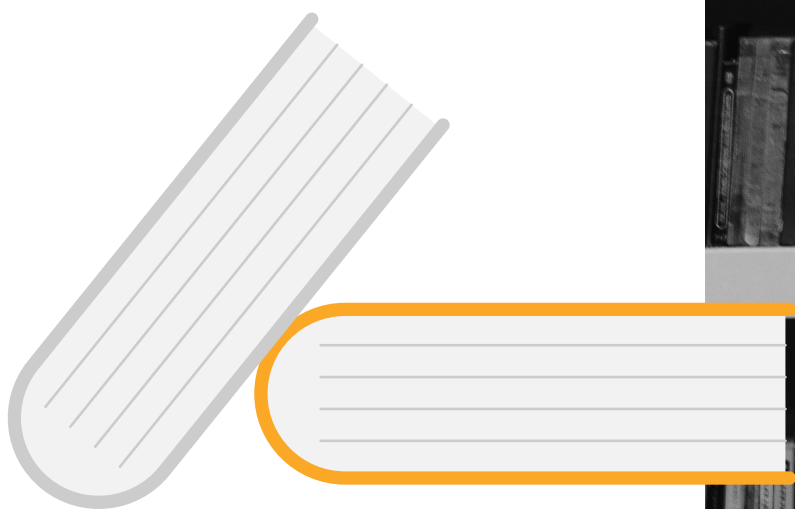
Teacher training was a part of the project. A group of about 10 tutors was trained, partly with the help of CIPE.

The project is modular, which means that it can be replicated for groups. In our experience, a group cannot include more than 26 students, that is 13 tandems. Above this number, it becomes difficult for the tutor to handle the individual interviews.

Within CIVIS, I think it may be interesting to reflect to use this experience (and others within the consortium such as Margarita Vinagre's ones) to develop different forms of virtual mobility, not based on dyads but on small groups of students in different locations to collaborate to develop language, intercultural, learn-to-learn skills, and possibly content knowledge.

## Contact

> Marco Cappellini:  
[marco.cappellini@univ-amu.fr](mailto:marco.cappellini@univ-amu.fr)



## 5.1.4. Teacher Educator professional learning with Blended Learning (BLTeae)

### Faculty / domain

INSPE – Educational studies

### Brief description

In view of the need for a more intensive international exchange of learning by teacher-educators that contribute to their professionalism, the “Blended Learning Training for Teachers Educators between Europe and Asia” (BLTeae) project was awarded a grant by the European Commission’s ERASMUS+ programme.

The project was aimed at promoting the professional development of teacher educators across European and Asian regions. The BLTeae project was led by the School of Education, Aix-Marseille University in France. The university established the consortium involving four institutions in Europe and 7 institutions in Asia. A website (<http://blteae.eu/>) and a Twitter account (BLTEAE) have been created to support the community’s communication.

This project responded to a common issue in European and Asian Educators’ Professional Development (EPD) - the need to support their skills to enable them to prepare future teachers to take on multiple and changing roles in their home community. The BLTeae project was aimed at developing a transcultural international community of reflection on teachers’ practices using online resources, sharing of video, forum, and small face-to-face discussions in the era of the digital ecosystem. The training has been developed across the 8 countries (and 11 institutions) taking part via a Moodle platform (20 training modules - <http://moodle.blteae.eu>) and international project and training meetings.

In addition, each country also set up an active and committed local community of teacher-educators to facilitate the sharing and reflection of practices for continuous professional improvement appropriate

to the specific social, cultural, and linguistic context. A Blended Learning (BL) model was used successfully in the project, as an effective model for implementation even in a context with limited technological solutions.

Teachers follow the blended learning modules (include: Copyright; Active learning; Evaluation Practices); Social Media; Place-Based Learning, participate in the online discussions and continue the discussion in the local community: the online activity and the local community are strictly interconnected.

The emphasis during the second year was placed on the production and sharing of video on teaching practices related to the modules’ contents. Teachers were invited to record short videos in the classroom about the teaching practices. These videos were then inserted, in small snippets, into the online platform for sharing and discussion. Besides this, the teacher shared and discussed other videos of teacher trainers in the local community.

In the third year, the goal was to write a common framework for teacher-educators professional development. Each country has shared the national referential skills for teachers and teacher-educators. The competencies were discussed collaboratively to find the main common areas for possible improvement taking into account the perspective of individual countries.

### Impacted learning results

- An active collaborative community engaged in online activities: 380 participants have enrolled in the Moodle platform at the first stage of the online activities. All partners were involved in activating the networks of stakeholders to invite teachers-educators to the online platforms.
- Several formative local sessions (more on the website <http://blteae.eu/>).
- Increase quality in International Professional development (Technological Skills, Developing Pedagogical and Instructional Design skills).
- Output for European partners: The project has had a deep impact on the policy of the school of education involved. European teacher-educators involved in the project develop an intercultural awareness, learning to work with different social, economic, and cultural challenges.

- › The project has also resulted in transversal research collaboration between institutional partners with master thesis about the project (Grima, 2019) and many publications (Impedovo & Ginestié, 2019; Proceeding of the Conference via DEStech Publications: <http://dpi-proceedings.com/index.php/dtssehs/issue/view/392>)

## 📄 Language

English

## 🖥️ Virtual mobility

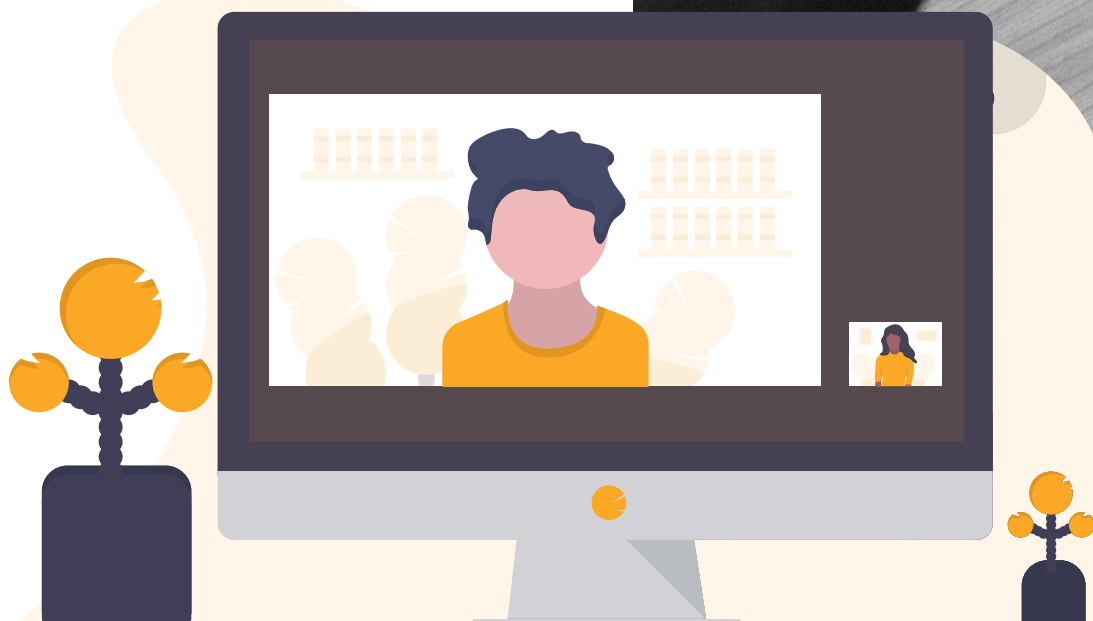
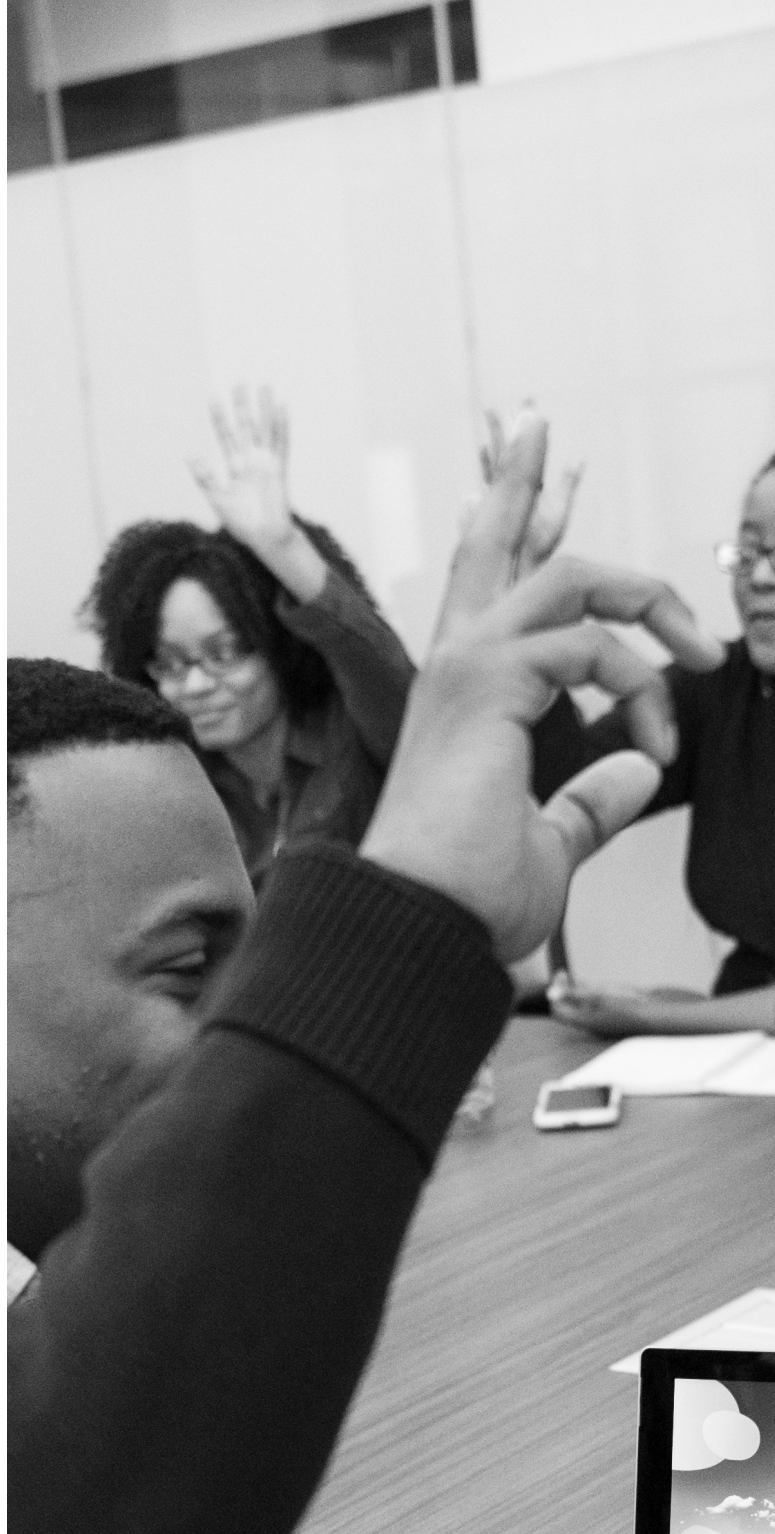
This experience seems appropriate for virtual mobility if the international consortium is activated.

## 🔄 Opportunity to train others

Free access to the Moodle platform (<http://moodle.blteae.eu/>)

## ✉️ Contact

- › Maria Antonietta: [maria-antonieta.impedovo@univ-amu.fr](mailto:maria-antonieta.impedovo@univ-amu.fr)
- › Jacques Ginestié: [Jacques.ginestie@univ-amu.fr](mailto:Jacques.ginestie@univ-amu.fr)



### 5.1.5. Interactive tutorials with Powerlab device and Labtutor software (ADinstruments)

#### Faculty / domain

Faculty of Pharmacy / physiology / pharmacology

#### Brief description

Innovative interactive teaching for practical training in Physiology and Pharmacology, using the Powerlab® device (ADinstrument) and allowing:

1. preparation of the face-to-face session in the form of a distance pre-class for the acquisition or revision of fundamental theoretical concepts;
2. to favour during the face-to-face hours supervised by the teacher, the acquisition of experimental data, without the use of laboratory animals, reflection in small groups and the structured restitution of information according to the inverted class model;
3. validation of prior learning by self-assessment at the end of the session or remotely, in the form of a quiz.

This equipment (Powerlab®) can be shared with all courses of the Faculty of Pharmacy in initial training (State Diploma of Doctor of Pharmacy, various DESU / CESU) or continuous (DPC).

The Powerlab module is connected to a PC and controlled via Labtutor® software. Via this device, the student can:

- › acquire theoretical notions (illustrated / animated slideshow),
- › proceed with the acquisition of live experimental data then process and interpret them,
- › submit their report for evaluation purposes.

#### **What makes the example innovative?**

This activity promotes the students' autonomy in their observations and their associated reasoning on their own, unique, experimental data, under the teacher's supervision.

#### **Any evidence that it works?**

Since 2016, this activity has enabled the implementation of interactive lessons, and has been valued by the students.

#### Impacted learning results

Knowledge in physiology and pharmacology, reasoning on experimental data, autonomy.

#### Language

French / English

Possibility to translate an existing course or to build a brand new one

#### Virtual mobility

Not applicable

#### Opportunity to train others

Demonstrating and training on request

#### Contact

- › Philippe Garrigue:  
[philipe.garrigue@univ-amu.fr](mailto:philipe.garrigue@univ-amu.fr)



## 5.1.6. CIVIS project acronym: BULE (Brain (good) Uses for Learning Efficiently)

### Faculty / domain

Faculty of Science (pilot project “Méthodologie<sup>1</sup>”, « Apprendre à apprendre<sup>2</sup> »)

### Brief description

Because they passed their high school diploma, most undergraduates believe they are capable of deep learning of new concepts, rapidly and efficiently. However, both research in educational psychology and our teaching experience shows that it is far from being true. The BULE sessions are dedicated to make students discover and practice specific, relevant and efficient learning methods<sup>3</sup>, given what brain science and cognitive psychology tell about academic learning and performance.

During lectures, live experiments with students are carried out in order to raise awareness of the data storage limitation of short-term memory and the difference between controlled and automatic components of memory. In the same way, interactive workshops are used to illustrate many of the student’s misconceptions and misunderstandings about brain functioning (neuroscience myths) and to demonstrate the strength of implicit cognitive biases.

During seminars, the students experience, for the first time for most of them, the following efficient learning methods :

- › Cornell’s technique to take notes
- › guidelines to writing a report
- › self-test
- › step by step solving protocol of academic scientific problems
- › techniques to find relevant information from multiple sources and to evaluate their reliability (avoiding fake ones)
- › efficient collaborative work in jigsaw puzzle groups and/or working groups with given responsibilities (within the group), including an observer for metacognition purposes. The multiple

advantages of each of these methods and the importance of promoting both memory and comprehension are explained and emphasized in class. The students are invited to keep practicing these methods in all the fields they are studying.

#### › metacognition

The students are guided to think about their own learning habits, their real motivations for learning, and their learning strategies. They have to keep a logbook or a portfolio to help them in their metacognition activity and as a proof of both their class and extra training sessions.

### Impacted learning results

Students learn how to use efficiently their main tool: their brain. They practice “new” learning methods and try to apply them to study key concepts in their scientific field. They become aware of their own achievement goal profile and know-how to eventually modify their learning strategy to better master the fields they study. They increase their autonomy, learn-to-learn skills, self-confidence, and critical thinking.

### Language

Teaching is performed in the mother language of the CIVIS university. Training in a foreign language could be considered.

### Virtual mobility

During the second wave of the Covid pandemic, the individual exercises to be performed during class sessions and workgroups are carried out using breaking rooms in zoom application, which is compatible with AMU ENT.

### Opportunity to train others

A teacher training module” (6-9 h courses) for any interested CIVIS university could be provided in English within a year in a workshop of a CIVIS school.

### Contacts

- › Isabelle Régner, Professor  
[sabelle.regner@univ-amu.fr](mailto:sabelle.regner@univ-amu.fr)
- › Gabrielle Regula, Associate Professor  
[Gabrielle.regula@univ-amu.fr](mailto:Gabrielle.regula@univ-amu.fr)
- › Erika Riberi  
[Erika.riberi@univ-amu.fr](mailto:Erika.riberi@univ-amu.fr)

1 methodology

2 Learn-to-learn skills

3 John Dunlosky “Strengthening the Student Toolbox, Study Strategies to boost Learning, American Educator”, 12-21 (2013)



## 5.2. National and Kapodistrian University of Athens

### 5.2.1. Social Pedagogy: Theory and Practice

#### 🏠 Faculty / domain

- a) [for undergraduate students]  
School of Education – Pedagogical Department of Primary Education
- b) [interdepartmental synergy for the postgraduate students]  
School of Education – Pedagogical Department of Primary Education | School of Health Sciences – Department of Medicine | School of Science – Department of Biology

#### 📄 Brief description

##### Types of activities, area / domain, participants

Social Pedagogy: Theory and Practice is a module taught through experiential, collaborative and innovative team learning strategies during the third year of the four year Teachers' Education Degree (within the Pedagogical Department of Primary Education), as well as a part of the two year Master's Degree Programme named «Social Neuroscience, Social Pedagogy and Education» which is offered jointly by the Pedagogical Department of Primary Education and the Departments of Medicine and Biology of the NKUA. In the latter case, students delve much deeper and wider into the subject, which becomes more demanding as it utilises its interdisciplinary links with Social Neuroscience.

The Module (undergraduate degree) includes interactive Lectures (39 hours: 13 weeks, 3 hours per week), Experiential Workshops with activities (20 hours) and Practicum (26 hours)

#### Description

Social Pedagogy, as a formal and institutionalised discipline, has a history and presence of about two centuries. Since its inception, it has based itself on the belief that social conditions can be influenced decisively through education and has made the commitment of society to improving and changing the educational and social situation its main objective. It has long related to the dynamic addressing of issues / problems, thus contributing to the reform of social and education systems in Europe and the rest of the world. Social Pedagogy is not limited to school life but also places a strong emphasis on the personal development, education, progress, and emotional and social well-being of all members of society throughout their lifetime.

We have defined Social Pedagogy as the interdisciplinary field that “acts upon”, and is a “functional mediator”, between the “biopsychological-social human systems” and the social, cultural, political, economic and technological hyper-system that surrounds them. Social Pedagogy redefines the “chronotype” of education, and its effectiveness is influenced, by and large, by the formation of a different “balance” between formal, non-formal and informal education, especially by the dominance of I.C.T, through which we have been experiencing a paradigm shift in Thomas Kuhn's terms.

Social Pedagogy has a very wide scope of application to different sectors; various education types and processes (e.g. lifelong learning, social justice, social providence, psychosocial health and education, social and emotional education and development, highlighting uniqueness and diversity of every human being, without prejudice or exclusions, dealing with antisocial behaviour, democratic education, vulnerable social groups, education on human rights, professional development and inclusion, managing socio-educational crises and to all cases where society undertakes to resolve a problem, studying beliefs, attitudes, emotions, behaviours and relationships, making use of the dynamic interaction between and social aspect of education and the pedagogical aspect of social life.

In general, the Social Pedagogy module has as

its main purpose to educate students (initially themselves but enabling them to educate others at a later stage) on how to:

- a) Strive over the course of their lives in order to achieve multidimensional personal development, enabling them to live a self-governed life with a strong value system, a sense of duty, positive relations with others, supportive behaviours, solidarity, and a life of giving and overall wholesomeness.
- b) Simultaneously seek collaboration, social participation, social justice, social progress and prosperity, endeavouring – in a methodologically organised fashion – to improve existing conditions and manage (or anticipate) effectively contemporary socio-pedagogical issues through substantial socio-pedagogical actions (planning and implementation of socio-pedagogical interventions and programmes).

## Methodology

Within the module, the team of students is considered as a “Learning Organisation” according to its definition by Senge: “...where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together” (Senge, 2006: 3), in a collaborative and creative way.

The module utilises the five disciplines that Peter Senge identifies as:

- Personal Mastery is the discipline of personal growth and creative learning. People with high levels of personal mastery are continually expanding their ability to create the results in life they truly seek.
- Mental Models are deeply ingrained beliefs, mind-sets, assumptions, and generalisations that influence how people understand the world and how they act.
- Building Shared Vision provides the focus and energy for learning, in various creative ways, and involves the skills of unearthing shared “pictures of the future” that foster genuine commitment and enrolment rather than compliance.
- Team Learning is the discipline that starts with an interactive and productive “dialogue”, the

capacity of members of a team to suspend assumptions and enter into a genuine “thinking together”, through creative techniques.

- Systems Thinking is the fifth and cornerstone discipline that integrates the others, fusing them into a coherent body of theory and practice, that is fundamental in Social Pedagogy. This discipline helps students see how to change systems more effectively.

For the potential of the aforementioned disciplines in the module to be supported and maximised, an intensive iterative, collaborative and creative process, with constant feedback, management and transformation of knowledge and accountability for improvement actions is necessary.

## What makes the module innovative?

- Familiarisation, comprehension and application on the part of the students of the Systems Thinking view towards an effective problem resolution, which can lead to a systemically enhancing the transformation of the culture of the team of students, that of the University and subsequently (when they become teachers) that of the school, the family, and the wider school environment as well as the community.
- Utilisation of experiential and creative team learning strategies, methodological practices and techniques that effectively support the specific methodology and favour the interactive, collaborative, creative, and productive learning environments and lead students to create new knowledge together.
- The experiential team activities are based on the utilisation of creative methodologies [such as the Syneducation (Synergy + Education) Model], creative strategies, techniques, practices, and tools (such as the “cycles of change”, «the most important change», role-playing, dilemma situations, decision making and problem-solving approaches through storytelling, the jigsaw techniques, six thinking hats, images and illustrated stories with multiple reading possibilities, directed incidents, simulations of various situations, videos, films, artwork etc.).

## Any evidence that it works?

Based on the logic described above, a large number of successful social-pedagogical programmes, interventions and actions have been carried out with assistance from undergraduate and graduate students as well as alumni who are now teachers in order to tackle different social-pedagogical problems such as: impaired emotional and social skills, child marginalisation and exclusion in and out of the school, addressing diversity, discrimination, and stereotypes, bullying, victimisation and violence in the school environment, violation of human rights, social disadvantages, vulnerable social groups, etc.

Moreover, it is worth noting that the module evaluation questionnaires filled in anonymously by students (on a dedicated NKUA platform) on the completion of the semesters demonstrates that all of the students believe they receive many benefits and acquire multiple skills at different levels thanks to the module and they are perfectly satisfied by the way it takes place.

### Impacted learning results

Evaluations on the completion of the module show that students:

- › have broadened and enriched their cognitive, emotional, collaborative and social skills;
- › have improved their relationships. Such relationships start from a personal but also a shared vision and a sense of mission and become authentic relationships based on mutuality, trust, intimacy, genuine interest in the other, mutual cooperation, a sense of duty and the assumption of personal and collective responsibility for collaborative action, resulting in the production of “social capital” and the creation of a synergistic network between the students;
- › understand and make use of the knowledge they acquired and created collaboratively, helping them better support the fostering of values, the learning process, a manifestation of positive behaviours, decision making and problem-solving;

- › know how to apply methods and techniques which enhance creative, critical and reflective thinking, as well as how to develop experiential and interactive mutual learning and more broadly, how to create the relevant learning experiences in order to improve the teaching and educational process, autonomy, developing relations and social learning, within the frameworks of formal, non-formal and informal education.

### Language

It could be offered both in Greek and in English and could be delivered in different languages.

### Virtual mobility

Given the highly experiential character of the module, merely a part of it would lend itself well to a virtual offering (blended learning).

### Opportunity to train others

The module offers the opportunity to educate academic staff and/or students, contributing in this way to the reinforcement of a European social-pedagogical culture, which will prove helpful in tackling important problems faced by our education and society.

### Contact

- › Iro Mylonakou-Keke:  
[imylon@primedu.uoa.gr](mailto:imylon@primedu.uoa.gr)  
[iromylonakoukeke@gmail.com](mailto:iromylonakoukeke@gmail.com)



## 5.2.2. Promoting Democratic Culture through the Curriculum

### Faculty / domain

Humanities / Departments of Greek Literature | Philosophy | English Literature | IT | Theology (RE) | Physical Education | Theatre Studies

### Brief description

The Module (12 weeks, 3 hours per week) is embedded in Initial Teacher Training Programs and Student Teachers practicum of the Departments that educate and train secondary teachers. The module has been implemented in Greek Literature, Philosophy, English Literature, IT, Theology (RE), Physical Education, Theatre Studies. The aim of the module is to train student teachers on the content, use and methodology of Competences for Democratic Culture, as defined by the Council of Europe (2018). It is also available as a Continuing Professional Development course. The module is innovative because it lies on the European experience (programs of the Council of Europe including: Teaching Controversial Issues, Living in Democracy, Democratic School Governance) and productively educate democratic teachers through the educational tools and material which foster social inclusion, respect to Human Rights and promote intercultural competences in education that were designed and developed by an Erasmus+ KA2 partnership between (NKUA, University of Thessaly, University of Nicosia, Leeds Beckett University and Wergeland Centre).

The content of the module has a section about refugee education included in the social inclusion goal. This creative response to the Reference Framework of Competences for Democratic Culture (CDC) (CoE, 2018) is innovative because it is flexible to be adjusted in all the levels of study and their practicum.

At the same time, it provides:

- a) a method that can be adjusted to teach different subjects of the curriculum of the secondary education,
- b) a reach and effective teaching material for its subject,
- c) the development of competences for democratic culture is not just a matter of transferring knowledge to student teachers, pre-service and/or in-service teachers via the education course only but concerns the institution (school, university etc.) in all its purposes and functions.

Methodologically the Module combines theory (through lectures and seminars), and practice (through workshops and activities), but also implementation in situ (practicum in schools). The activities based on experiential learning and using multimodal techniques (art, theatre, cinema, IT, project).

The content of the activities:

1. Contemporary theoretical approaches aiming to the recognition and inclusion of democratic culture/ cultural diversity with an emphasis on the notions of identity, diversity, and intercultural dialogue for a culture of peace.
2. Democratic culture and Diversity (cultural, religious, linguistic, ethnic etc) and educational responses in our contemporary world aiming to the development of a culture of peace.
3. Problematising on the relationship between "Self" and the "Other"
4. Exclusion, marginalisation, discrimination, and racism as pedagogical challenges.
5. Interculturalism and anti-racist initiatives: Peaceful co-existence and interaction.
6. Democratic culture and global citizenship. RFCDC
7. Democratic culture, educational policies, and teaching strategies with reference to bilingual education, language acquisition and language teaching in multicultural societies.

8. The role of international organisations (Council of Europe, European Union, UNESCO) in the field of Democratic culture and the contribution of the institution of UNESCO Chairs for a culture of peace.
9. The development of new approaches in Democratic culture curricula.
10. Evaluating Democratic culture competence: methods and tools. Whole school approach

### Impacted learning results

On the completion of the module the teacher students, future teachers and teacher educators can:

- › value cultural diversity;
- › value democracy and social justice;
- › critically understand the cultures of people;
- › critically examine concepts related to democratic culture, intercultural dialogue and to evaluate their implications in educational settings;
- › be respectful and responsible;
- › develop autonomous learning skills;
- › develop their own competences for democratic culture;
- › be more apt in DC in their daily work to help students, student teachers and practitioners to develop the values, attitudes, skills and understanding (RF CDC);
- › promote the development of competences for democratic culture and intercultural dialogue through their (future) daily work with children and young people in schools;
- › integrate the development of competences for democratic culture and intercultural dialogue into their institutional mission.

### Language

There are no limits for internationalization and to be delivered in different languages.

### Virtual mobility

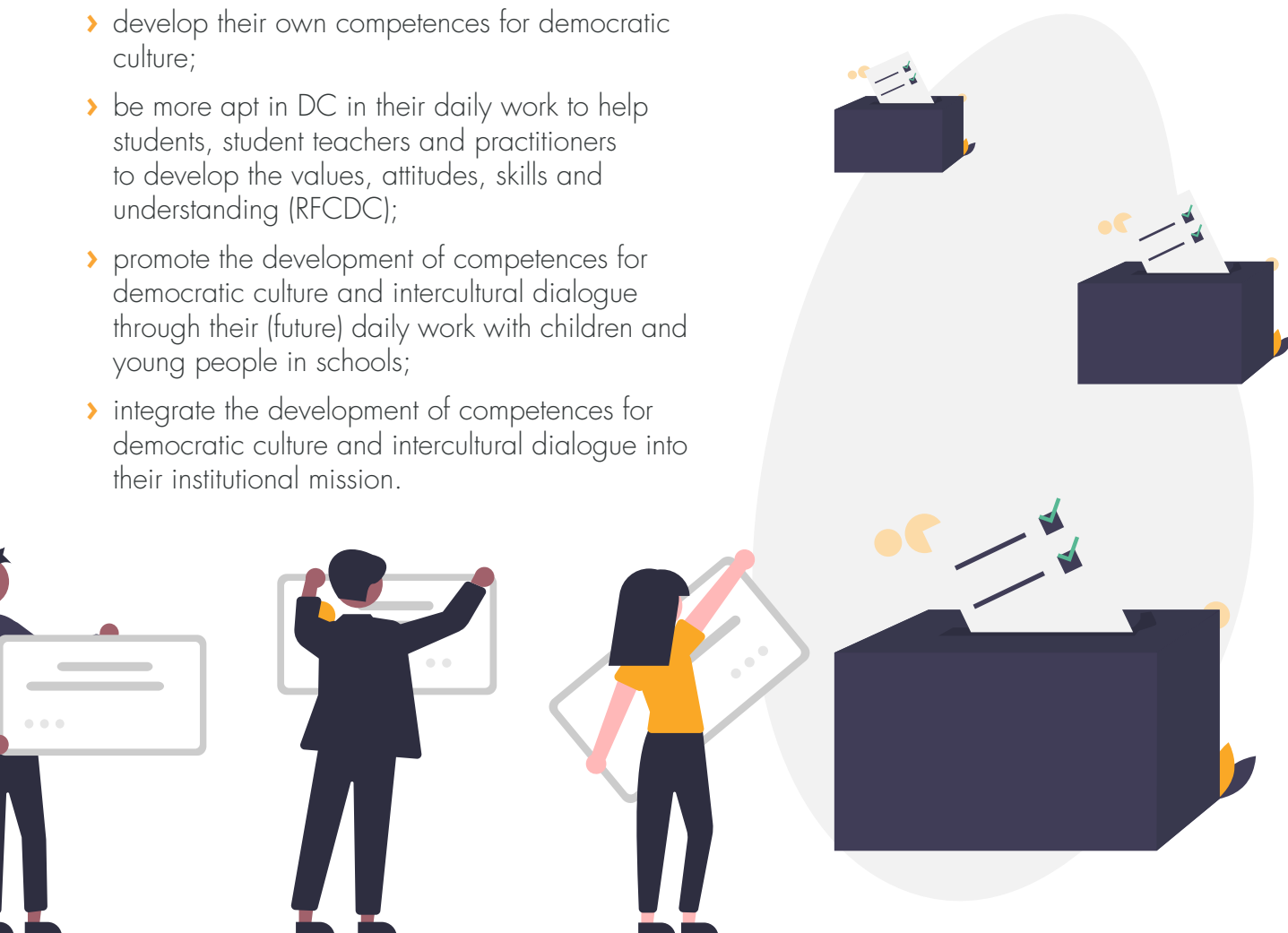
The module can be implemented both as a face-to-face and E-learning programme as a blended-learning course (virtual and face-to-face meetings).

### Opportunity to train others

The module has been designed to be adjusted to different level of study and different levels of education (pre-school, primary and secondary education). For that the team can train others to adopt the method and to incorporate it into student teachers the practicum. As it is, it would be a dissemination of the KA2 Project Step Up-DC (Student Teachers' Practices for Democratic Culture).

### Contact

- › Marios Koukounaras Liagkis:  
[makoulia@theol.uoa.gr](mailto:makoulia@theol.uoa.gr)



### 5.2.3. Education of Vulnerable Groups: A Syneducational Model for refugee children with their families and students

#### Faculty / domain

School of Education – Pedagogical Department of Primary Education

#### Brief description

##### **Types of activities, area/domain, participants**

This Social Pedagogical Programme has been implemented for three years, in reception centres for refugee unaccompanied minors and families with school-age children in Greece, and put emphasis on empowering and educating the refugee child and the family and the University students, as well.

The Programme had been implemented by groups of trainees who were (under and postgraduate) students - volunteers of the Pedagogical Department of Primary Education at the NKUA, and who would be tomorrow's teachers.

The techniques used were experiential, creative, most in playful form, which used, especially in the early stages, non-verbal communication, through many activities.

#### **Description**

The Social Pedagogical Programme is based on Syneducation (synergy + education) model and, according to this, unaccompanied minors and families with children and students who are educated simultaneously and in collaboration with refugees.

Furthermore, for the needs of this Programme, a Social Pedagogical Educational Intervention Model for Refugee families by Students (SPIM4ReSt Model) has been developed and implemented.

The Programme had a vision and general purpose to educate and empower refugees and educate students on social pedagogical issues, such as respect for human rights.

Moreover, the Programme aims at:

- › Broadening and enhancing participants' emotional, communicative and social skills (i.e. those of refugee children and parents as well as those of students);
- › Highlighting and respecting each participant's uniqueness and diversity; (self-respect and respect for the other);
- › Making experientially aware persons, families and groups - hosted in the same or even in other (refugee hosting) areas - of their personal and collaborative potential;
- › Strengthening bonds between different families, through shared educational experience and establishing a democratic culture, through creative coexistence of refugees from different cultural environments;
- › Making both children and parents gradually acquire language communication skills in the Greek language; and
- › Creating much potential for entertainment, expression, communication and creativity of refugee guests.

#### **Methodology**

The Programme utilised two Models: A) It was based on the Syneducation Model; and B) It also created the SPIM4ReSt Model (Social Pedagogical Educational Intervention Model for Refugee families by Students) to deal with the specific idiosyncratic conditions and the needs of this Programme.

A) Syneducation (synergy + education) Model has defined as a shared educational experience that is acquired simultaneously and in collaboration by people of different ages (representatives of the local community, policy makers etc.), different knowledge, experiences, interests and/or different social cultural backgrounds.

The Syneducation Model is a systematic and collaborative learning process between people of different ages (in this case they function together in an interactive and collaborative learning environment where they organise and develop effective and proactive cooperative actions. Within this learning environment, the traditional roles of teaching and learning are abolished, whereas a co-dialectic, creative and multiplicative dynamics of learning develops in which all participants both “teach” and “are taught”.

Within the Syneducation model, all participants in the Programme, while receiving a simultaneous, interactive, and collaborative education:

- › seek to address and manage collaborative situations where they co-decide upon and consider them important or critical;
- › operate with mutual influence, guidance and mutual mentoring, despite the age difference, utilising children’s creativity, freshness and resilience which are fed by and at the same time feed adults with interaction and synergy;
- › start from their own vision so as to create their shared vision for the issue that concerns them, designing an ameliorative change with their active participation in and commitment to this issue, trying to involve as many stakeholders as possible;
- › encourage creative interaction and collaborative, innovative learning;
- › utilise personal and communication skills and experiences, encouraging the development of new creative ideas;
- › strengthen personal and collective responsibility, by undertaking substantive actions for collaborative prevention and intervention;
- › study and evaluate their collective practices, behaviours, and actions; they re-examine their personal beliefs and their consequent effects on their interpretation codes and alter / enhance their perceptions and attitudes; and
- › gradually increase the degree of involvement and participation in the project and seek to operate as multipliers, attracting other people to the project; thus, they seek to create a strong and ever-growing network of interaction and innovative and productive collaboration.

B) The Social Pedagogical Educational Intervention Model for Refugee families by Students (SPIM4ReSt Model) follows the logic of the interactive expanding, which is structured in repetitive interacting phases and stages, within the context of a continuous feedback process.

Briefly, the Social Pedagogical Model of Educational Intervention for Refugee families by Students (SPIM4ReSt) is structured in interactive and recurrent phases, such as:

- › Designing – planning;
- › Education and training of student volunteers;
- › Organization actions;
- › Reflection – evaluation;
- › Implementation in refugee hosting areas (actions in the field by implementing the Syneducation Model);
- › Re-designing – re-planning;
- › Re-training of student volunteers;
- › New organization for actions;
- › New implementation in the field;
- › New reflection and evaluation and so on.

### **What makes the Programme innovative?**

The knowledge and implementation by the students of two innovative educational Models that offer implementation possibilities in many other levels and environments.

The possibility of effective and successful implementation by the students of the Syneducation (synergy + education) Model between adults and minors to solve various problems [e.g. Syneducation between parents / family members, children and teachers in order to deal with problems in the school community /Whole school approach / Action learning].

The different experiential and creative team activities which are developed and implemented in the Programme.

The creative ways of utilising non-verbal communication to enhance all participants’ cognitive, emotional, communicative, and social skills.

The responsibility, systematic commitment, consistency, and enthusiasm that all student volunteers have shown, while having implemented the Syneducation and the SPIM4ReSt Models.

According to all student volunteers, what they have been doing is a valuable educational programme (“in vivo experiment”), which improves them significantly not only as future teachers but also as human beings. After their long experience in this Programme, they have acquired the ability to organise an innovative Programme and implement the Models by themselves in all its challenging phases, in different groups, not only the vulnerable ones.

The overwhelming majority of refugees stated that the Programme gave them a new mission, taught them a lot of things, helped them psychologically and made them feel creative, important, effective, and useful.

All participants noted that creativity fuelled the very positive psychological climate that prevailed (which was reinforced by children’s spontaneity), interactive humour, team spirit, motivation for participation, the sense of shared mission as well as team learning and action, and affected the quality of the team function and ultimately the effectiveness of the Programme.

### **Any evidence that it works?**

- › The Syneducation Model has been utilised in different educational programmes in Greece and abroad with very good outcomes for the last fifteen years.
- › The innovative combination of the Syneducation Model and the Social Pedagogical Educational Intervention Model for Refugee families by Students (SPIM4ReSt) can be seen as a recommendation for an organised and systematic “Human Rights Education Model” for both refugees (children and adults) and students, which effectively enhances and extends the social pedagogical role of teachers and school.
- › The evaluations made by all participants in the Programme had very good outcomes.

### **🕒 Impacted learning results**

The different types of the evaluation (formative, summative, empower participatory evaluation etc.) have shown that the outcomes of the Social Pedagogical Programme and the implementation of the Syneducation and the SPIM4ReSt Model are positive and encouraging at many levels.

Below, there is a brief overview of some outcomes, with emphasis on improvement and change, which has been noted in the following axes:

- a) To remove stereotypical perceptions and biases, to improve communication between students and refugees as well as between hosted refugees coming from different countries, so they can live together in the same area and, thus, a democratic culture can gradually develop among people from different cultural environments.
- b) To discover and reinforce many skills (emotional, communicative, social, musical, manual, etc.) of refugees and students, through creative interaction and collaborative learning. The participants discover their personal skills and ways to use them to enhance the operation of the Social Pedagogical Programme.
- c) To nurture the feeling of well-being, efficiency, effectiveness, and satisfaction that all participants feel and express.
- d) To enable children much more than adults to communicate in the Greek language.
- e) To enable all participants (students, refugees, children and adults) to acquire experiential knowledge and become aware of the value of self-respect, respect for the dignity of the different Other and whoever Other, and the rights that everyone has as a human being and the value of peaceful cohabitation and collaboration.
- f) To help refugee family members go through an unprecedented experience in an unknown and peculiar situation of parents and children’s simultaneous learning (Syneducation Model) that has created new forms of positive interaction between members of the same family and among other families and, eventually, has led (to a different extent in every refugee hosting area) to mutual influence and effective collaborative action so that these people are able to deal with issues they encounter.



g) Among others, the Programme could be recommended as a Model of Human Rights Education.

### Language

It is offered in Greek. It could be translated into different languages.

### Virtual mobility

Because of the highly experiential and group character of the Programme of both Models, they cannot be offered virtually.

### Opportunity to train others

The Programme offers the opportunity to train academic staff and/or students, face-to-face, because it requires close interpersonal communication.

### Contact

› Iro Mylonakou-Keke:  
[imylon@primedu.uoa.gr](mailto:imylon@primedu.uoa.gr)  
[iromylonakoukeke@gmail.com](mailto:iromylonakoukeke@gmail.com)



## 5.2.4. Teaching intercultural issues through Theatre in Education

### Faculty / domain

Humanities / School of Theology

### Brief description

An educational project that educates through experiential learning techniques annually (2 semesters) and a Theatre in Education module groups of students of different Departments (Humanities) to teach intercultural issues through the Theatre in Education method such as a TiE programme (Theatre in Education programme).

The project takes place in groups of 40 people structured in 10-12 4-hour workshops under the following themes:

- a) Community development,
- b) Facilitating groups,
- c) Group dynamics,
- d) Intercultural education and communication,
- e) TiE methodology,
- f) Development of a TiE programme,
- g) Application and Evaluation of the programme.

By TiE is meant the use of theatre with integrated active participation of the audience within a set educational framework. It is designed for and applied in an educational environment; its issues are closely related to the curriculum and/or the educational needs of a specific age group aiming to challenge its audience both intellectually and emotionally. It is addressed at small audiences - not more than 40 participants at a time - and it is most often portable regarding props, lights and setting. TiE as an educational form of theatre, has derived from the Belgrade Theatre in Coventry, UK in the 1960s. Until 2020 many different researches on TiE programmes (and research of our team) give us evidence that the TiE method is of great educational

impact especially when the themes of the education need intercultural management and teaching.

To have skilled educators on the TiE method an education in practice of facilitating groups is needed, using narratives, devising stories in groups, designing, applying, and evaluating TiE programmes.

Thus, the module of the 12 workshops containing activities as the above, functions as a model teaching method. Students in Higher Education have the educational experience of what they were taught during their studies to use as an innovative teaching method in the schools when they will be appointed to teach, or in other educational environments. That makes the module innovative. Moreover, the TiE programme that the students in the University study is an innovative teaching method.

It brings both students (in Universities and schools) into direct engagement with their own learning experiences as well ideas, events and texts which are open to re-readings by individuals and groups. It provides a safe environment to 'connect with the corporal and the emotional in a way that understands at multiple levels' and allows for a variety of viewpoints and reflection.

Drama workshops are a kind of social laboratory in which we examine the attitudes, values and relationships of chosen people in selected situations. It adds to our personal and more general societal understanding of what it is to be human and, as such, is an essential ingredient in any society and its education systems'.

In a TiE programme:

- a) drama involves the simulation of the reality of life and its complexities through the use of the dramatic medium;
- b) identity can be seen as a personal narrative which is constantly extended and modified by the many other narratives - global and local - and experiences to which we are exposed; The use of Theatre in education creates opportunities for participants to recognize how identity (religion, nation, gender, sexual orientation etc.) shapes their actions and positions and so irreversibly 'the other' has a central role in constructing the individual's identity and knowledge;

- c) by entering the fictional world created in the drama, a participant may gain greater understanding of his own, personal narrative. This is a major source of the claims that attitudes and behaviours can be changed; and
- d) providing a safe educational environment where the dramatic experience is not real so someone can release themselves safely into it. This is also a dynamic key factor in attitude and behaviour change.

A TiE programme actually consists of a method, which manages to creatively combine Brecht's politic/epic theatre and Boal's theatre of the oppressed (Boal, 1979) in a prolific application of Pedagogy (Dewey, Bruner, Reid, Vygotsky), Drama in education and Psychology (De Bono, Glasser, Caine and Caine, Somers, Gardner, Kolb) and there is plenty of evidence that it is educational effective.

### 🕒 Impacted learning results

On the completion of the module the students are equipped to manage and facilitate groups, to be open to cultural otherness and to other beliefs, worldviews and practices, to be respectful and responsible, to develop autonomous learning skills, to use experiential learning technique and to value knowledge as experience, to develop critical understanding of the self, of the communication and of the world, to develop, apply and evaluate theatre educational programmes, to contribute as members of 'learning communities'.

### 🗨 Language

There are no limits for internationalization and to be delivered in different languages.

### 📱 Virtual mobility

The module can be implemented as a blended-learning course (virtual and face-to-face meetings).

### 🔄 Opportunity to train others

Our experience can be a module to train other academics.

### ✉ Contact

> Marios Koukounaras Liagkis:  
[makoulia@theol.uoa.gr](mailto:makoulia@theol.uoa.gr)



## **5.3. University of Bucharest**

### **5.3.1. Blended learning for higher education teachers**

#### **🏠 Faculty / domain**

Faculty of Psychology and Educational Sciences / Educational Sciences

#### **📄 Brief description**

In Romania, although concerns began to be recorded over the teacher training topic, there have not been registered any coherent developments regarding training devoted to academics. The project “Blended learning”: continuing training for university teaching staff (BLU) was based on a series of studies, best practices and programmes already developed by partners. This project aimed to develop a pertinent reference framework for designing and implementing programmes for training and/or continuing professional development of higher education teaching staff, and implicitly improve the level of qualification and development of skills, with significant impact on the quality of Romanian and European higher education.

The target groups of the project were represented by different categories of teaching staff:

- a) young academics,
- b) practice coordinators,
- c) commission members for quality assurance, internal auditors,
- d) managerial staff,
- e) experienced teaching staff interested in the issue of quality assurance from the perspective of student-centered education,
- f) teaching staff interested in the issue developed in the modules.

The project met the specific needs of the academic staff, based on a double rationale identified:

- a) the existing European documents guiding the policies in the field and
- b) analysis of the functions performed by the teaching staff, its managerial and administrative roles, its tasks, an endeavour that underlies and supports the identification of relevant skills and training required.

The total number of participants in the training programme was 309 in all three universities.

The proposed training programme in the project was structured in 3 training modules (Module 1: Quality assurance in higher education; Module 2: Student-centered learning; Module 3: Student professional/career practice), respectively 5 courses in relation to the 5 categories of beneficiaries identified in the need’s analysis carried out in an earlier period of the project.

Each course had in view 66 hours (20 credits). Activities in the project were: face-to-face meetings; videoconferencing; interactive multimedia sequences (done online, individually); individual projects; online discussion forum.

The duration of the training programme was 7 months between November 2011 - May 2012. The training approach was blended learning. This involved a combination of face-to-face meetings with online activities. Blended learning courses included the following activities: face-to-face meetings, videoconferencing, interactive multimedia sequences (online, individually), individual projects, online discussions forum.

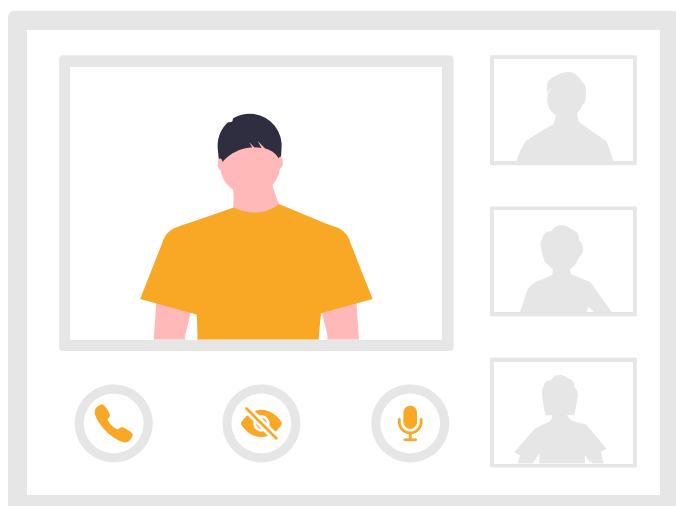
Choosing this type of training was based on the results of research and those of practice summarized in the field literature, which recommends online sessions alternating with face-to-face sessions, so that there is sufficient time to allow participants to study the online materials at their own pace using the learning portal. The first face-to-face meeting included introductory elements into the main topic in the course, elements of portal use and modalities of

online learning, whereas participants experienced how to use the online platform. The last meeting of each course was devoted to evaluation and feedback. Finally, there was conducted a follow-up session to share experiences of direct training and final testing leading to graduates' competences certification.

The programme development was supported by trainers who have chaired, facilitated, and assisted the learning process. For courses where this was relevant, face-to-face sessions were videotaped and were made available on the portal for participants, for further analysis. The learning portal allowed the construction of online learning spaces, provided participants with access to learning resources, in communication with trainers and colleagues. Through the portal, participants had access to current information about live sessions, while trainers had access to a dedicated space to exchange experiences with both program participants and with other trainers and facilitators. Online training content was organized per learning units, asking participants to read, to study individually, get involved in forum discussions, to conduct individual and collaborative projects.

Innovation can be discussed at least on two different levels:

- The field of intervention – continuous training in the field of QA and pedagogy for academics
- The combination of activities resulted in the blended learning approach



## 🕒 Impacted learning results

### Module 1

I. Knowledge: superior knowledge and appropriate use of QA specific notions; understanding the main lines of educational policy in European HE and the main trends and processes; explanation and interpretation of projects, processes, and theoretical and practical content of institutional QA in HE.

II. Skills: design, management and evaluation of practical activities using specific techniques and quality assurance tools for managerial and educational processes in universities.

III. Attitudes, values: the manifestation of a positive and responsible attitude toward the professional development of the academic staff for quality evaluation and development of a quality-oriented culture in HE; fostering a scientific environment centred on values and democratic relations in academic educational activities with respect to academic ethics rules imposed by QA; motivated participation of teachers involved in their own professional development.

### Module 2

I. Knowledge: understand the main concepts that characterize university pedagogy; identify the roles of responsible actors for institutional design of study programmes and, at the operational level, for teaching, learning and assessment activities; literacy in student learning mechanisms and improvement strategies for the latter; understanding the role of evaluation in relation to the training process and validation of student learning outcomes.

II. Skills: the ability to critically analyse the strengths and vulnerabilities of professionalization in HE; ability to argue the approach to teaching design; the ability to assess the role of different types of strategies for the taught course / seminar in order to achieve desired learning outcomes; ability to develop effective instructional strategies focused on student learning activity; ability to develop tools for assessing student learning outcomes.

III. Attitudes, values: responsibility toward the teaching activity from design to evaluation; developing a positive attitude in relation to training and development opportunities of students; responsiveness to changes in theory and practice in terms of university pedagogy; replacing a

passive culture of teaching, centred on the mere transmission of knowledge, with an active one, promoting student learning activity.

### Module 3

I. Knowledge: understand the main concepts that characterize students' professional/ career practice; identify the roles of actors responsible for organizing professional/ career practice; knowledge of contemporary labour market mechanisms at national and international context; understand the institutional strategy components in the design, implementation and evaluation of professional practice.

II. Skills: the ability to comparatively analyse organization systems of professional/ career practice in Romanian universities in relation to instances of good practice at international level; ability to develop tools for assessing professional/ career internship; ability to argue in order to change the system of organization of professional/ career practice; ability to build a strategy for professional/ career practice in university studies, consistency and efficiency.

III. Attitudes, values: responsibility for the domain of professional/ career practice from organization to evaluation; developing a positive attitude toward success opportunities on the labour market;

responsiveness to changes in the theory and practice in terms of professional/ career practice; replacing a passive culture of professional/ career practice with an active one that promotes effective change.

#### Language

The methodology in case is in no way restricted to a specific language or culture, the possibilities for internalization being quite promising.

#### Virtual mobility

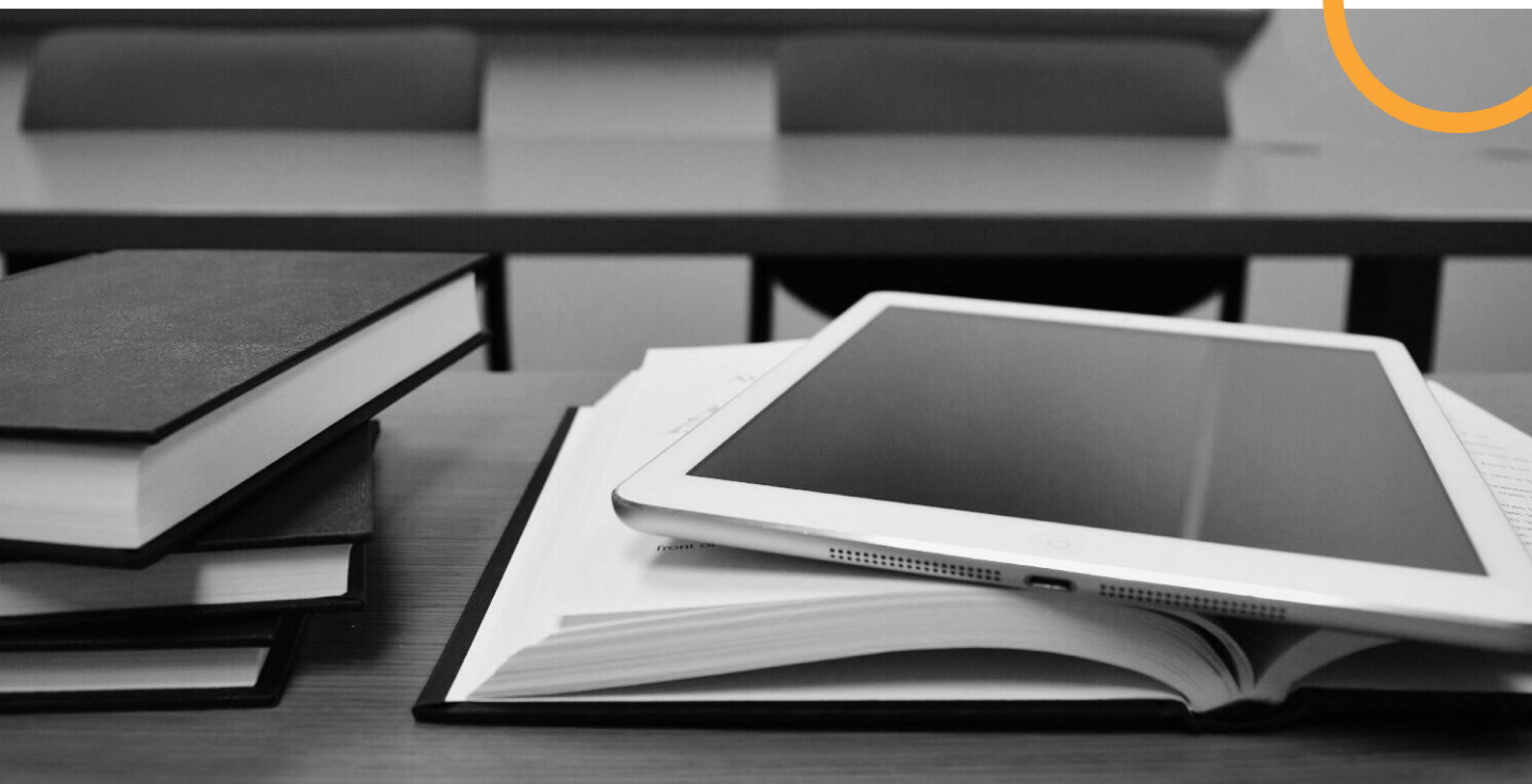
The program could be open to virtual mobility through videoconference systems and platform.

#### Opportunity to train others

- › One opportunity relates to the possibility of bringing valuable human resources into class as technology eases the space barriers, consolidating further partnerships;
- › Also, the opportunity derives from the benefits of using technologies that respect individualization and learners' pace.

#### Contact

- › Lucian Ciolan:  
[Lucian.ciolan@fpse.unibuc.ro](mailto:Lucian.ciolan@fpse.unibuc.ro)



## 5.3.2. E-learning

### Faculty / domain

Faculty of Psychology and Educational Sciences |  
Faculty of Sociology and Social Assistance

### Brief description

The project aimed at the use of video telepresence technologies for providing distance education services in geographically isolated communities and assessing the impact of implementing these services and technologies at community level. Specifically, the project aimed to supplement the initial education for children in the 7th and 8th grades in 3 isolated communities and to provide continuing education services for adults, respectively teachers in the schools of the beneficiary communities and employees of local public administrations.

The main product of the project was defined by the concept of «Community Telecentre», which can be used both for the provision of distance educational services in isolated communities and for many other purposes related to the possibility of real-time remote communication. Secondly, the project aimed at developing a set of technical specifications for maximizing the efficiency of the services offered by the telecentre, as well as developing the methodology for investigating and smoothing the resistances to the adoption of video technologies.

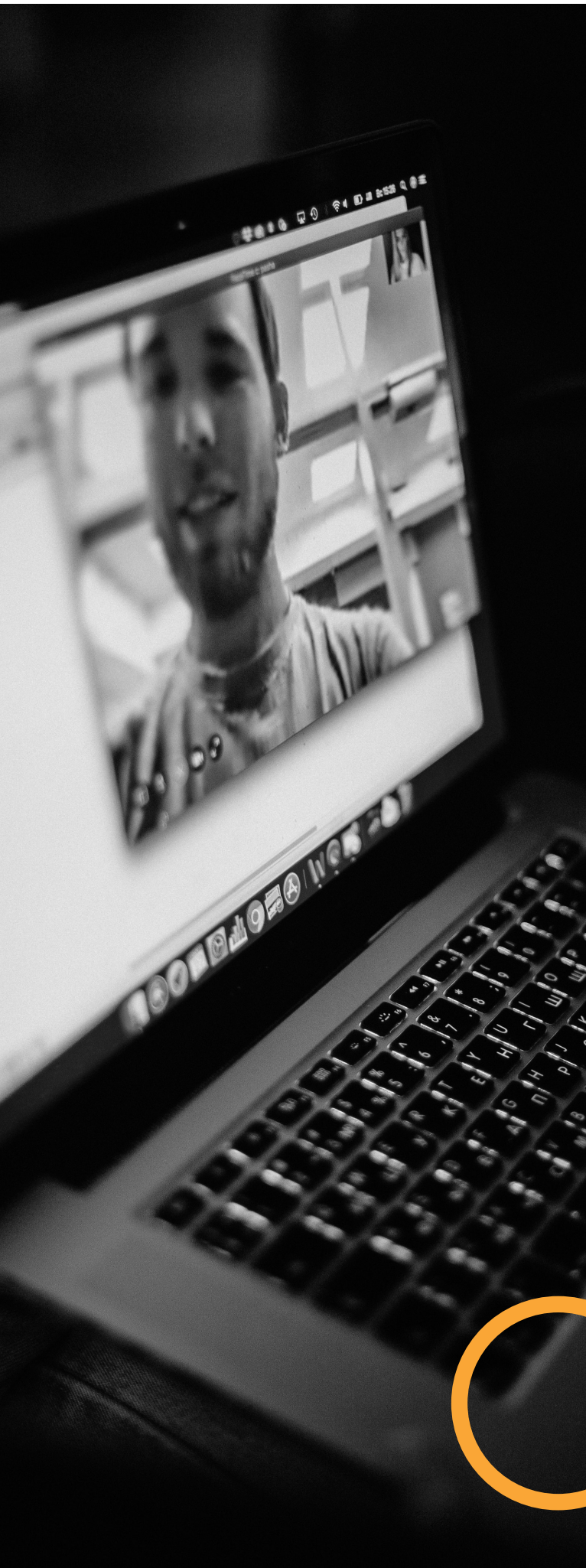
The telecentre is a set of technologies that comes to the support of the members of a community to help reduce the isolation and technological gap, promoting both social opportunities (education, training, inclusion, etc.) as well as economic opportunities. Within this project, at the base of

the telecentre were telepresence technologies that facilitate the simulation of the physical presence of a person or group of people, remotely, through the broadband connection. Thus, considering the importance of nonverbal factors in communication, the telepresence technology makes a considerable contribution to the communication processes by transmitting a larger number of nonverbal parameters in the communication between participants. To maximize the impact of this technology, within the project will be added support equipment that will complement the facilities offered by the telescope and will combine with this technology.

Regarding the educational offer, the school population was evaluated, as well as the socio-economic and demographic context, the institutional profile of the school, the analysis of human resources in the school, the access, participation and the school results of the students during the last 4 years, especially for the beneficiary students. Based on the analyses, the educational packages for students and teachers was built, including: clarification and planning of the types of activities (centralized courses for the three schools and tutorial meetings with students in each school), preparation of initial assessment test packages regarding the level of student acquisitions, analysis of the curriculum in grades VII-VIII, of the subjects and the scales for the examination of the aptitude in mathematics and the Romanian language and the elaboration of the package with the units of learning for the Romanian language and mathematics for the program of preparation of the students.

The innovations proposed in the project were aimed at three main directions:

1. Product innovation, through the «Communitarian Telecentre»,
2. Methodological innovation, in the field of investigating the resistance to the adoption of video technologies, and
3. Innovation in the field of educational services, through use of telepresence technology.



## 🕒 Impacted learning results

Domain specific knowledge and skills, inquiry skills, critical and creative thinking skills, responsibility, autonomy

## 🌐 Language

The methodology in case is in no way restricted to a specific language or culture, the possibilities for internalization being quite promising. The proponents of this event plan to develop the international dimension and connect with other similar developments in the field.

## 📺 Virtual mobility

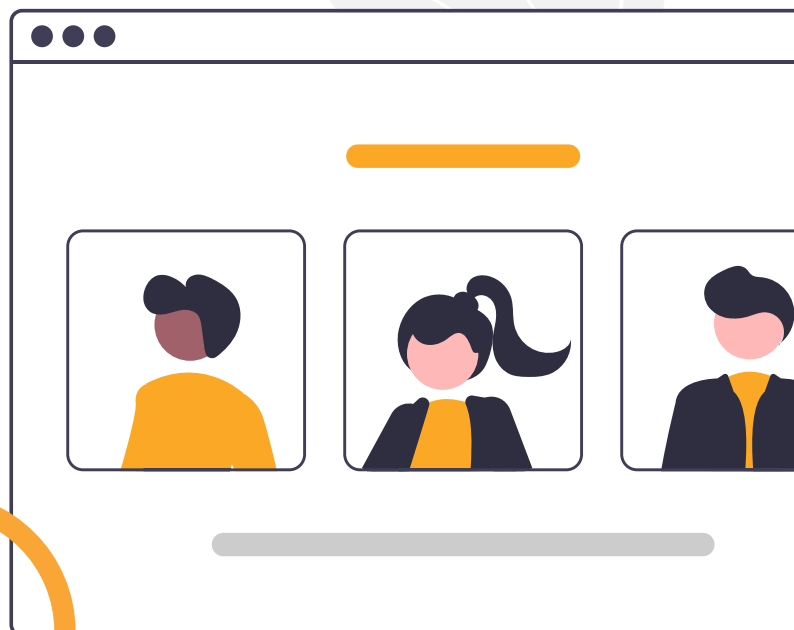
The program could be open to virtual mobility through a telepresence system.

## 🔄 Opportunity to train others

One opportunity relates to the viability of the training system to support whatever content necessary.

## ✉ Contact

- › Cătălin Nedelcea  
[Catalin.Nedelcea@fpse.unibuc.ro](mailto:Catalin.Nedelcea@fpse.unibuc.ro)





### 5.3.3. Inquiry based learning / Problem based learning / Learning in real professional context

#### Faculty / domain

Faculty of Psychology and Educational Sciences | Faculty of Physics | Faculty of Biology | Faculty of Chemistry | Faculty of Geology | Faculty of Mathematics and Computer Sciences

#### Brief description

The Summer School of Science and Technology in Magurele sought to capitalize on the scientific expertise of the education and research platform at Magurele (greatest physics research infrastructure in Romania) and the University of Bucharest, making it accessible to high school students regardless of their profile and specialization and the teachers teaching the subject STEM (science, technology, engineering, mathematics) in upper secondary and lyceum secondary education.

The school proposed a complementary program based on the premise that STEM education through its definitions is an impact vector on increasing competitiveness and social cohesion, in the context of Romania's sustainable development, with significant influences on the well-being of both learners and a community in which they live. Trainers and mentors at the summer school were researchers, teaching staff in pre-university and university education in the STEM fields, in the education sciences but also in other specializations, the approaches being integrated.

The school aimed primarily to stimulate the academic development of high school students and to motivate them for their professional career

in science and technology, to familiarize them with current and relevant subjects in the field of physics, life sciences and the environment, engineering and electronics, digital technologies, scientific research in general.

Research projects developed in teams of 2-3 students represented the heart and soul of the school. They were selected by students according to the existing offer and in relation to their own interests. Each project had a dedicated mentor / team of mentors, an expert in the field, under whose guidance they learnt the relevant methodology and practical skills required for scientific research. By participating in school activities - lectures, lab visits, work with mentors, students learnt how to conduct experiments, process data, present their results and skills.

At the end of the Summer School, a scientific communications session was organized to give them the opportunity to explore their research project, get feedback and share ideas with the entire Summer School community.

Related to the teacher's section the Summer School aimed, first of all, to strengthen the specialized competencies of secondary school teachers and secondary schools that teach STEM disciplines, as well as the pedagogical competencies that ensure the quality and efficiency of the classroom teaching in direct relationship with the pupils. The program consisted of a series of workshops and training sessions, as well as meetings with relevant STEM experts and roundtables.

The trainers and tutors were both experienced scientists including development-training, teaching staff in pre-university and university education as well as keynote speakers invited as key speakers to share scientific, most often extremely challenging, and current. Thus, each contributor shared from his direct experience in attractive and stimulating forms with impact both at the level of knowledge and at the motivational one.

Innovation can be, in this case discussed on different levels:

- › The partnership developed between representatives of the educational field and representatives of the research institutes.
- › The methodology centred on inquiry- and problem-based learning combined with real professional settings.
- › For the teachers who benefitted from this experience the new ways to include research, innovation and develop partnerships with researchers.

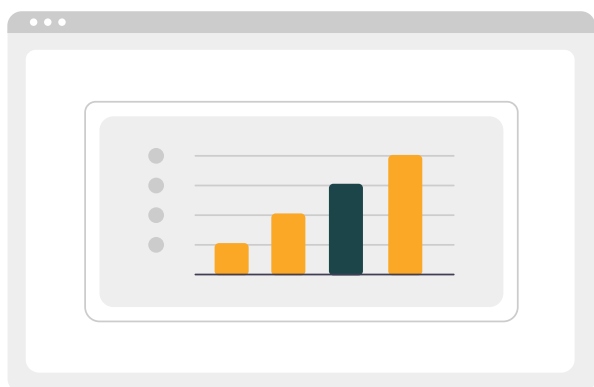
It is quite early to say at this point that there is strong evidence that it works as it was a first edition, however the students kept in touch with their mentors and participated together at further scientific events (such as Researchers' Nights etc.) while being also involved in other development projects derived from their research project undertaken during the summer school (including writing scientific articles, or application development).

### Impacted learning results

Domain specific knowledge and skills, inquiry skills, critical and creative thinking skills, responsibility, autonomy.

### Language

The methodology in case is in no way restricted to a specific language or culture, the possibilities for internalization being quite promising. The proponents of this event plan to develop the international dimension and connect with other similar developments in the field.



### Virtual mobility

Difficult to say at this point due to the laboratory resources needed.

### Opportunity to train others

- › One opportunity relates to the vertical integrated projects that provide a multi-year, multidisciplinary approach to learning that emphasizes project-based, innovative, research-active education. It is an opportunity to practice professional skills while making real-world contributions that needs to be further developed and adapted to higher education institutions.
- › Another opportunity is to consolidate on new lines strong partnerships between HEI and research institutes especially connected to the social mission of universities.
- › It offers complementary programs of studies.

### Contact

- › Cosmina Mironov:  
[cosmina.mironov@fpse.unibuc.ro](mailto:cosmina.mironov@fpse.unibuc.ro)
- › Anca Popovici:  
[anca.popovici@fpse.unibuc.ro](mailto:anca.popovici@fpse.unibuc.ro)



### 5.3.4. Teaching Russian avant-garde: An Innovative Pedagogical Tool

#### Faculty / domain

Faculty of Foreign Languages and Literatures / Bachelor's Degree / Philology

#### Brief description

This course is designed to be an optional course in the Third Year for those majoring in Russian Philology. The title is "The Russian Literary Avantgarde: Experiment and Poetic Extravagance". The course is set up to accommodate 30 students.

The course incorporates three teaching strategies:

1. Through an interactive method of exposition along with heuristic and problematizing discussions, the students will become acquainted with the ideology and fundamental principles of the Russian literary avantgarde (orientations, aesthetic manifests, representatives of futurism, imagism, expressionism, constructivism). We will visit the National Museum of Art of Romania, specifically the Gallery of European Art, which has a permanent exposition dedicated to the avantgarde. There the students will experience first-hand European avantgarde art and its atmosphere. Before the visit we will read and discuss ways to observe and analyse Classical versus Avantgarde artifacts.
2. Through collective brainstorming and analysis, the students will gain knowledge of the most radical and experimental texts of the Russian avantgarde. The texts to be translated from the Russian into Romanian and then analysed are those of Vladimir Mayakovsky, Velimir Khlebnikov, Aleksei Kruchyonykh, David Burliuk, Igor Severyanin, Daniil Kharms.

3. Using demonstration, exercises and discussion, an in-class Creative Writing Studio will be devoted to avantgarde methods (acrostics, "exquisite corpse", the Dadaist method of objective hazard, collage, metaphorical threads, quintets). The students will work in groups of three. At the end of the workshop they will read their poems and incorporate any feedback they receive.

Any literature course can be designed according to this three-part approach, and it can be extended into other domains because it:

- › has a high degree of interaction and offers students the possibility of free expression;
- › places emphasis on the applied method. In every class theory is to be thoroughly exemplified and then applied by the students;
- › promotes a positive and stimulating atmosphere which valorises student creativity.

By the end of the course the students will produce 8 – 10 original poems inspired by avantgarde methods and 1-2 poem-collages using words cut out of newspapers and other printed public matter.

The content and pedagogical material proposed by this course emphasizes student-centered learning. It thus offers a modern alternative to the traditional teacher-centred literature course.

When students are given a direct relationship to literary texts, experience in-class material outside the classroom and produce themselves examples of the course materials, they are necessarily implicated in their own learning, and a higher degree of student motivation can be expected.

## 🕒 Impacted learning results

The learning outcomes for this course include:

- › formation of a high degree of professional competence, the ability to apply knowledge of the Russian language in the translation/textual analysis of selected literary texts;
- › awareness of the ways in which avantgarde texts transgress certain conventions concerning both production and reception;
- › understanding of the bases of oral and written communication and a grasp of an adequate critical vocabulary with which to approach the literary-lyric;
- › appreciation of poetry, even in its most eccentric form;
- › recognition of the impact of poetry on emotional development and the formation of affective attitudes through engagement with the lyrical as a generative source of emotion;
- › experience of the value of team work and creativity through direct teacher-student and student-student interaction.

## 🗣️ Language

The course can be adapted to any language put in relationship to Russian. The minimum level of achievement in Russian must be B1. The intranational possibilities are endless.

## 📱 Virtual mobility

This course could shift to a virtual platform as long as the students have a minimum of B1 proficiency in Russian.

## ✉️ Contact

- › Axinia Crasovschi:  
[axinia.crasovschi@lts.unibuc.ro](mailto:axinia.crasovschi@lts.unibuc.ro)



### 5.3.5. Applying of Artificial Intelligence algorithms in advanced remote sensing image analysis. Training with ground truth data and developing learning data sets for land cover performant classification

#### Faculty / domain

Faculty of Geography / Geography

#### Brief description

Training activities at courses and workshops in the framework of Master level course in GIS on Remote sensing applications in GIS. Students are BSc from geography faculties and other faculties with geomatic training basis like geodesy, agriculture, forestry etc. This is a part of the curriculum focused on image analysis.

Methodology is based on the training of satellite image classification using AI based algorithms like Artificial Neural Networks. They are developed on ESA Sentinel 2 MSI higher resolution imagery at 10 m resolution in complementarity with orthophotos at 0,5m where we can combine the technique with Object Based Image Analysis. Training of the AI based image classification integrates field observation to produce samples that can be also helped with the integration of high accuracy DGPS survey in point sample collection. These samples are to be considered as training sets and then learning sets helping the application of the AI algorithms. Validation of results is the next level, based on confusion matrices and other ground truth sample datasets. The applications are developed in Bucharest City's urban landscape and mountain areas around Sinaia on Prahova Valley with forested and subalpine features.

Innovation comes from the possibility to integrate computer work and fieldwork in complementary landscapes, urban and forested mountain regions. Another aspect is the use of the latest technology like high accuracy DGPS survey in training data

collection for the learning datasets production and afterwards in the validation of the results.

Project from students' work can be evidences as well as some MSc graduation thesis.

#### Impacted learning results

Students trains in the field of land cover and land use mapping, and can test at the same time the typical statistical algorithms in comparison with artificial intelligence-based algorithms. Comparing the results of image classification can show the efficiency and the limitations of the AI approach of remote sensing image classification. Each student tests them on different imagery and together the results can be evaluated in a comparative formula. They can work independently and their report will include the accuracy report of AI based classification in comparison with other algorithm-based classification and visual image interpretation.

#### Language

Teaching and working is in Romanian, but all technical documentation is in English language. The course is accessed also by foreign students coming to our university as ERASMUS+ students.

#### Virtual mobility

Students from other universities can participate in workshops and fieldwork together with Romanian students. Training in English language is possible. Professors can also develop these activities with groups of students from other universities and apply the AI image classification in land cover mapping on images from these countries.

#### Opportunity to train others

This example can be also transferred to other academics teaching GIS techniques but also thematic mapping, environmental mapping. They can apply AI remote sensing image classification algorithms during their classes and fieldwork.

#### Contact

- › Bogdan Mihai:  
[bogdanandrei0771@gmail.com](mailto:bogdanandrei0771@gmail.com)
- › Marina Virghileanu:  
[rujoiumarina@yahoo.com](mailto:rujoiumarina@yahoo.com)

### 5.3.6. Interacting of geography / geography of the environment students with the up-to-date geomatic technologies. From surveying and drone photogrammetry to GIS landscape mapping

#### Faculty / domain

Faculty of Geography / Geography / Geography of the Environment

#### Brief description

Training activities are focused on field data collection for landscape features (ex. landforms) and environmental features (ex. pollution sites) accurate mapping on test areas. This is of real interest for geography students (MSc level in geography and geography of the environment).

#### **Methodology**

These activities are integrated in the framework of three-day fieldwork stages in selected sites (ex. Fagaras Mountains, Capra glacial Valley). Each group of students (30-40) are trained on smaller groups (10) on the same site with different geomatic technologies, from a highly accurate total station surveying, integrated with DGPS point measurement, to a drone photogrammetric mapping after control points measurement. The obtained data is processed in a GIS environment to produce maps and analysis.

Innovation comes from the integrative formula of the geomatic techniques in solving a practical problem like site selection for a building or a road, and even modelling the environmental impact of existing developments or the topographic and environmental features of a pollution site.

Projects from students can be developed and even expanded within their MSc thesis.

#### Impacted learning results

Knowledge skills are essential in working in the future in the field of geomatics and other fields like cadastre, cartography, urban planning, and environmental impact assessment. Each student from the group is encouraged to interact with instruments and software, and the evaluated on the basis on an individual project. Students are encouraged to evaluate, in a comparative formula the advantages and the limits of these currently used geomatic technologies and to find different ideas for potential application in social and economic fields.

#### Language

Teaching is in Romanian, but it can be also adapted into English. Technology access is based on internationally recognized instrument and software providers like Sokkia (total station), Leica (DGPS receiver and antenna), drone and camera (Mavic, Sony, or Canon) and ESRI made software. There is rich documentation in English too.

#### Virtual mobility

These activities are best for students' mobility. They can integrate fieldtrip and fieldwork with the interaction with geomatic technologies in a more integrated formula. Teaching staff from abroad can also come and help improving the learning process.

#### Opportunity to train others

There are possibilities to invite other academics and especially PhD students and young scholars involved in teaching different mapping related subjects.

#### Contact

- › Bogdan Mihai:  
[bogdanandrei0771@gmail.com](mailto:bogdanandrei0771@gmail.com)
- › Savulescu Ionut:  
[savulescu@geo.unibuc.ro](mailto:savulescu@geo.unibuc.ro)

### 5.3.7. Learning remote sensing for landscape mapping with complementary open-data from ESA COPERNICUS satellite imagery

#### Faculty / domain

Faculty of Geography / Geography / Geography of the Environment

#### Brief description

Training activities are focused on learning landscape mapping using remote sensing image analysis with free access imagery from the European Space Agency - Copernicus data archives.

#### **Methodology**

Geography students as well as the geography of environment students (BSc level) are encouraged to free download, visualize, interpret, and process for the same selected study areas from Romania, complementary imagery from Sentinel 1, 2 and 3 ESA Copernicus sensors. Using the free access software solution provided (ESA SNAP 7.0) they are trained to generate complementary data coverages, from radar imagery (wetlands and flooded areas), to multispectral imagery (vegetation, agriculture features, human impact areas) and spectrometric imagery (environmental features like pollution, drought effects, wildfire etc.). Different images, spectral indices or maps are developed and processed in GIS mapping interfaces. Validation and interpretation are possible with the help of field data from selected regions.

#### **Innovation**

This aspect can be a result of an innovative integration of the complementary satellite imagery in a common formula in searching for didactic data models to be integrated in simple landscape mapping formulae like vegetation maps, land use, change detection in built-up areas etc.

Projects from students are developed in individual study formula and show different ideas of searching data from satellite imagery.

#### Impacted learning results

The students can obtain new skills in understanding the high value of multitemporal and multisensory satellite imagery in Earth Observation and landscape mapping and analysis. Simple and complex data processing using open source software can help students search for new solutions for different problems like deforestation, pollution, natural hazard and risk mapping etc. Each student will develop a project with a workflow in a different area, with different problems for analysis. These are to be evaluated in a comparative formula.

#### Language

Usually, teaching is in Romanian, but all documentation, data sources, and software is in English.

#### Virtual mobility

Students from other universities can interact with our courses, as there is experience with ERASMUS+ students who studied remote sensing in our faculty.

#### Opportunity to train others

Other colleagues, not only geographers can also train in satellite image analysis to be used for their teaching and research interests.

#### Contact

- › Bogdan Mihai:  
[bogdanandrei0771@gmail.com](mailto:bogdanandrei0771@gmail.com)
- › Marina Virghileanu:  
[rujoiumarina@yahoo.com](mailto:rujoiumarina@yahoo.com)



## 5.3.8. Off / On-line learning

### Faculty / domain

Faculty of Chemistry – Applied Chemistry / Chemical Technology and Catalysis

### Brief description

Within these off / online activities are included all students of a chemistry faculty and not only.

Activities involved:

- 1) bibliography on a process;
- 2) knowledge of the process;
- 3) understanding and visualizing the process;
- 4) process improvement;
- 5) simulation of the offline process;
- 6) simulation of the process online.

Initially the students must possess basic chemical notions on which to build the future aptitudes; There is a review of the respective process in the specialized literature to know the limitations of the process; The possibilities of improving the process are established following the discussions between the participating students; Use of the accumulated knowledge as well as of the visions discussed to improve the process; Simulation of the functioning of the process on offline computer programs; Process simulation using industrial distributed control systems. Their use leads to a deepening of the assimilated knowledge to prepare students for the future.

The use of industrially distributed control systems in the learning process leads to the deepening of the processes of interest as well as of other adjacent processes.

### Impacted learning results

- › Accumulation of as much knowledge as possible
- › Acquisition of allowance
- › Acquisition of responsibilities
- › Professional and personal maturation
- › Decision autonomy

### Language

Chemistry is an international language like physics and mathematics. The elements used in offline learning go far beyond the language used by a nation.

### Virtual mobility

Indeed, the proposed theme includes virtual mobility because students can talk from a laboratory directly with specialists of the technological process with the help of internet programs, making sessions in which various aspects are developed.

### Opportunity to train others

Not only the chemical technological processes can be incorporated into this learning mode but also other processes in the field of physics, biology, etc.





### 5.3.9. From day to day life to the synthesis of an organic compound

#### Faculty / domain

Faculty of Chemistry – B. Sc. Chemistry / Organic Chemistry [Reactivity of Organic Compounds – 1st year, 2nd semester]

#### Brief description

During the first semester of the first year of study the students receive basic notions of general chemistry, organic chemistry, and analytical chemistry. The course “Reactivity of organic compounds” is introduced in the second semester, and requires the knowledge achieved by the students until then. In order to improve their ability to correlate knowledge from different domains the students are invited to elaborate an individual project starting from a prospect or label describing the chemical composition of a commercial product (which can be a drug, a cosmetic, a food or a beverage, a pest repellent, etc.).

The realization of the project involves as novelty for the first-year students the documentation (searching in scientific literature data bases). The laboratory teacher selects several prospects/labels, and each student is invited to pick randomly one of those. Then the students are asked to select the inorganic compounds and the organic compounds found in the prospect and to present their chemical formulas. The next step is to classify the organic compounds depending on their functional groups. These first two tasks verify the achievement of the notions taught in the first semester. Afterwards, the laboratory teacher selects for each student one of the organic compounds bearing functional groups which is found on its prospect/label.

The student receives as task to realize a project concerning the selected compound where he should present:

- a) the physical and chemical properties of the compound, its toxicity and flammability;
- b) the natural occurrence of the compound;
- c) a laboratory synthesis method for the selected compound starting from hydrocarbons and inorganic compounds., indicating the reaction sequence, the necessary equipment and installations required for the synthesis, the impurities that main occur during the process, the separation methods utilized for the isolation of the target product;
- d) an industrial synthesis method for the selected compound;
- e) the analytical methods that can be utilized for the identification of the target product and the methods that can be used for its structural characterization;
- f) the practical utility of the selected compound.

The project has to be presented as a handwritten scientific report of 5-10 pages and a power-point public presentation in front of the group of students and the teacher (8-10 minutes duration). The evaluation of the project will imply both the evaluation of the teacher and that of the other students in the group.

#### **What makes the example innovative?**

It is the first time this kind of project is designed for the students in the first year of study and it was not applied at this level in other disciplines in our faculty.

#### **Any evidences that it works?**

The method has been applied since 2012, and the main outcome was the increase of the student's interest in organic chemistry and an increase by 10% of the success rate in the organic chemistry exam.

### 🕒 Impacted learning results

The realisation of the project improved the basic knowledge of organic chemistry, and the awareness of the practical importance of organic compounds in day to day life.

It has also improved the communication skills of the students in both scientific writing and oral presentation. Besides that, since each student had to realize his own project, they become more responsible and they gained autonomy in fulfilling their objectives.

### 🌐 Language

The experience / case can be made available or adapted for any other languages (multilingualism) and there are no limits for internationalization.

### 📄 Virtual mobility

This experience could be subject to virtual mobility of students / academic staff since it makes use of data and notions that could be found in the specific scientific literature and the communication between the teacher and students for the realization of the project as well as its presentation could be easily performed on-line.

### 🔄 Opportunity to train others

This type of concept can be easily designed and implemented in other disciplines in the same domain of study.

### ✉ Contact

- › Rodica Zavoianu:  
[rodica.zavoianu@chimie.unibuc.ro](mailto:rodica.zavoianu@chimie.unibuc.ro)



### 5.3.10. Open-access web-platform on “Visual representations of Romani in 19th and 20th centuries” using visual representations taken from the archives of the libraries (didactic tool)

#### Faculty / domain

Faculty of Political Sciences and International Relations

#### Brief description

On the basis of the research supported by the “Europeana Research grant Program 2017”, a team of researchers from the Faculty of Political Science created a visual web tool, which includes the pictorial and photographic representations of the Roma minority of the Romanian territories. Along with the images, the team included on the web platform a theoretical overview, which details how the Roma history in modern Romania was articulated as a story marked by marginalization and stereotypes. The overview of the Roma minority includes a geographical and chronological perspective, as historical Romania comprises six territorial & cultural regions (Bessarabia, Bucovina, Dobruja, Moldavia, Transylvania and Wallachia), each with its particular influence on the Roma’s image highlighting the contextual distinctions. Moreover, the timeline also includes the most important events that marked the Romani history. Visitors can have more details about the specific context of a certain image they see in the Image gallery.

Digitising the archives of state institutions and private collections that relate to the Roma population could help enrich our understanding of some specific historical periods. Making these resources more accessible and providing a theoretical and historical context for their reading today should be an ongoing societal project. The current platform integrates as many archival sources as possible that provide a better understanding of certain research topics and be used as an online tool to use in classrooms, both

at high school and university levels, to try to help bring about a more balanced understanding of the stereotypes (through image deconstruction).

The platform became an instrument in teaching classes at the FSPUB but was also presented to undergraduate students at Carleton College (USA) who participated in 2018 in an off-campus program at the Department of Political Science (FSP).

Website: <http://roma-ovt.ro/en/>

Funding: Europeana Research Grants

#### Impacted learning results

Better understanding of history, minority studies, marginalization, and stereotypes

Skills: critical thinking/social awareness

#### Language

The website is in English and can be used by other classes (other universities): discrimination, gender studies, history of the ECE, minority studies, etc.

#### Virtual mobility

This is an open-access instrument

#### Opportunity to train others

Comparable datasets can be easily developed in other universities by using similar categories. If on the same topic, that would also facilitate a comparative research projects/study.

#### Contact

› Caterina Preda:  
[caterina.preda@fspub.unibuc.ro](mailto:caterina.preda@fspub.unibuc.ro)

### 5.3.11. Be your selfie in Bucharest. Educational program of urban history for students

#### Faculty / domain

Faculty of Political Sciences and International Relations

#### Brief description

The project “Be your Selfie in Bucharest” focuses on the urban and historical non-formal education, in an attempt to provide information to the younger generations, who, with very few exceptions, are not the beneficiaries of any kind of intercultural or urban and heritage education or training in the formal Romanian educational system. The project focuses on how urban and heritage education can be provided by using the idea of public space, in an enterprise that presumes not only a theoretical approach, through lectures, screenings, discussions, but also local interventions, site visits and presentations and debates sur place, to be given by a variety of specialists in the field: historians, architects, art historians, anthropologists, civic activists, sociologists.

The initial project comprised two main phases: First, using the case study of Bucharest, students received an interdisciplinary training which provided them with the basic knowledge on how to analyse the diversity of the city. Second, teams of students became trainers (teaching high school students). The project ended with a public exhibition of pictures taken during the formative processes. While the project had been completed in 2017, teams of FSPUB students continue the educational project within the framework of the Political communication class (BA1). Students are invited to take photos which illustrate themes connected to the political, social, ethnic, or cultural diversity of Bucharest. They must explain and describe their choices in a short text. Best photos are posted online (on BeyourSelfie Facebook Page). The pictures and the texts are debated and discussed in class, to better understand urban politics / policies and their broader political implications.

Facebook: <https://www.facebook.com/beyourSelfieprinBucuresti/>

Funding: EEA Grants PA 17/RO-13 LP SP 15/25.04.2014

[https://www.fonduri-diversitate.ro/en/small-projects\\_doc\\_117\\_be-your-selfie-in-bucharest-educational-program-of-urban-history-for-students\\_pg\\_0.htm](https://www.fonduri-diversitate.ro/en/small-projects_doc_117_be-your-selfie-in-bucharest-educational-program-of-urban-history-for-students_pg_0.htm)

#### Impacted learning results

Better understanding of multiculturalism and ethnic diversity of a city; the role of urbanism and architecture to promote a national agenda; the impact of political regimes on urban development.

Skills: Critical thinking, social awareness, ability to communicate / teach younger generations

#### Language

The Facebook Page can be used by other courses (other universities) working on similar topics. Students can compare images from different cities and debate on the public space as a location for staging political and social diversity, inequalities based on ethnicity, in an attempt of identifying and presenting a unitary concept of a European “public space”. Such approach favours comparative and interdisciplinary approaches (history, sociology, political science, communication, administrative studies). While the project initially targeted Romanian audiences, it is easily adaptable to multilanguage teaching.

#### Virtual mobility

Students and teachers from different universities/faculties can debate on similar sources. Virtual mobility and blended learning are facilitated by this project.

#### Opportunity to train others

Similar projects can be easily implemented in other cities or be used to better understand the specificities of one case (through online discussions).

#### Contact

› Alexandra Iancu:  
[alexandra.iancu@unibuc.ro](mailto:alexandra.iancu@unibuc.ro)

## 5.3.12. NEWTELP (NEWTON PROJECT)

### Faculty / domain

Faculty of Psychology and Educational Sciences –  
Department of Special Education

### Brief description

NEWTON is a large EU Horizon 2020 project which designs, develops, and deploys innovative solutions for Technology-Enhanced Learning (TEL) involving the delivery of state-of-the-art STEM content. The proposed TEL solutions are validated with diverse audiences, which include primary and secondary schools, universities, and students with special educational needs in real-life pilots deployed in multiple European locations. The NEWTON innovative technologies involve adaptive and personalised multimedia and multiple sensorial media (multimedia) delivery, Augmented and Virtual Reality (AR/VR)-enhanced learning, Virtual Teaching and Learning Labs (Virtual Labs), Fabrication Labs (Fab Labs) and Gamification. These technologies are used in conjunction with different pedagogical approaches including self-directed, game-based, and problem-based learning methods.

NEWTON also builds an innovative learning management platform (named NEWTELP) allowing cross-European learner and teacher interaction with content and courses and supporting fast dissemination of learning content to a wide audience in a ubiquitous manner. NEWTON's goal is to make use of TEL in order to increase learner quality of experience, improve the learning process and maintain or increase learning outcomes.

The NEWTON project involves the design and implementation of innovative technologies and modern pedagogical approaches that provide educational content and contribute to the assessment of the many benefits that they bring to learning such as: acquiring knowledge, motivating for learning, affective status, usability etc. both from the students'

perspective and from the perspective of the teaching staff. These NEWTON Pilots technologies are:

- › Gamification and Game-based learning.
- › Multimedia / multimedia content delivery.
- › Augmented Reality and Virtual Reality (AR/VR) including support for learners with special educational needs.
- › Fab Labs and Virtual Labs.
- › Innovative Pedagogical approaches, such as self-directed, problem-based, inquiry-based learning and flipped classroom.
- › Personalisation and adaptation.

Our faculty was involved in the deployment of 3 Large Scale Pilot for testing NEWTELP Platform in two special school for pupils with hearing impairment as following:

### **Earth Course 1 & 2**

The Earth Course pilot includes a set of educational applications developed to attract children to STEM subject. The educational applications cover a set of topics part of four main areas: Atmosphere, Geosphere, Biosphere and Astronomy. The applications use various technologies and innovative pedagogical methods (e.g. Augmented and Virtual Reality, gamification, game-based learning, and problem-based learning) to achieve the learning objectives specific to the primary school curriculum and to improve learning satisfaction.

### **GamLab**

The basic idea of the "GAM LAB" ("Gamification Laboratory") Large Scale Pilot was to create a new learning experience in which learners could use NEWTELP platform to access to a set of content supported by new technologies such as virtual reality and remote fabrication laboratories, while being further engaged through gamification mechanisms.

The technologies used in the lessons included in this pilot are: NEWTELP Platform, Multimedia, Problem-based Learning (PBL), Gamification and Game-based Learning, Virtual Lab, AR/VR.

In these pilot's deployment were involved students of Special Education Department. They have observed children's reaction when exposed to VR, Augmented reality and using Gamification in

learning process.

### Impacted learning results

This experience has given our students the opportunity to understand how new technologies in education and modern pedagogical approaches contribute to increasing the quality of the learning process in children with disabilities.

### Language

NEWTELP Platform provide learning content for different level of education (from primary school to third level education, including Universities) in different languages: English, Spanish, Italian, Slovak etc.

### Virtual mobility

Students and teachers from different universities/faculties can debate on similar sources. Virtual mobility and blended learning are facilitated by this project.

### Contact

› Marinela Bratu:  
[marilena.bratu@fpse.unibuc.ro](mailto:marilena.bratu@fpse.unibuc.ro)



## 5.4. Université libre de Bruxelles

### 5.4.1. MultiGram (Multilingual Grammar)

#### Faculty / domain

All faculties / study programs / languages

#### Brief description

MultiGram is a multilingual platform, which originated in the professional experience of a few teachers from the Department of Languages and Literatures at the Université libre de Bruxelles (ULB). It was conceived as a complementary tool for language teaching and learning and is available online at <http://multigram.ulb.ac.be>. As it stands, it currently covers six languages: German, English, Spanish, French, Italian, Dutch. The platform uses a cross-linguistic contrastive approach: every language is in comparison with French and the writing language for explanations is French. Innovative in its design, MultiGram is a tool that allows a communicative approach to languages. It also invites the development of creative paths in language learning. Indeed, the user can access it by focusing on only one of the described languages, but can also switch from one language to another, discovering similarities or dissimilarities between the languages, so that he or she can easily develop his/her plurilingual skills. The "pages" dedicated to each language are first organized into two "portals". The first presents the target language according to the categories of a traditional descriptive grammar - the nominal group, the verbal group, the sentence...; the second presents the target language according to the communication objectives - how to express, how to use... - within mind the stages of progress in learning according to the Common European Framework of Reference for Languages (CEFR). Indeed, if the most common way of entering the site is by finding the answer to a question relating to a particular language - "How do you present yourself in Italian?", "Are there any partitive articles in Dutch?" - , once the answer has been found (through the table of contents of the portal or that of the internal search engine of the platform), the user is informed, by the presence of links, of the existence of pages dealing with the same question for other languages, which could engage him in

a discovery of languages which he may not know at the outset. The same goes for navigation within a given language, encouraged by the multiple categorizations of pages, which invites, again by the presence of links, to discover the multiple correlations of a page with those which are linked.

The mainly innovative character of MultiGram is in the great flexibility, which allows its users to discover the correspondences between different languages, thus promoting a reasoned learning of languages: its communicative nature allows them to be immediately active in production in their target language, which contributes to increasing students desire to progress in their knowledge of this language; its interactive nature, via hyperlinks, allows everyone, according to their objectives or areas of interest, to create courses adapted to their linguistic knowledge and their requirements, thus promoting independent learning.

The platform has a multilingual contrastive dimension activated according to the user's linguistic background and his needs; it gives visibility to different languages by putting them on an equal footing; it is multidisciplinary, flexible, easy to use and provides a familiar environment for the user. On a technical level, the MultiGram platform was designed using the MediaWiki content management tool, which gives it an architecture comparable to that of the free Wikipedia encyclopaedia or Wiktionary.

The MultiGram platform, completely free to access and free of charge, is currently used not only by Brussels students, for whom it was originally designed, but also by other students in Europe and in the whole world.

September 2018 – April 2019: +/- 50.000 visitors; 80.000 pages visited. September 2019 - April 2020: +/- 85.000 visitors; 280.000 pages visited. (Google analytics)

2018-2020: visitors from (the first five countries in descending order) France, Belgium, Switzerland, Morocco, Canada.

#### Impacted learning results

This platform is a stimulating, original and creative initiative. MultiGram is adapted to an academic public; it can be consulted online at any time and also on tablet or smartphone; it is a complete contrastive / communicative grammar according to the CEFR levels; it has a complete grammar of

the French language for foreigner students. There are two important points to emphasize in relation to

- › 1) reasoned learning, and
- › 2) autonomous learning.

Indeed, it offers the opportunity to create personalized learning pathways, having French as a reference language at all times; enables students to become aware of the linguistic operations that they perform in the foreign language in relation to their mother tongue; allows students to be able to broaden their knowledge in the field having at his disposal a complete grammar. Finally, the enrichment of the content for each language is not reserved only for specialists in languages or didactics; students, under the supervision of their teachers, can also contribute and become the real players in their learning.

## Language

The MultiGram platform is characterized by the fact that its contents are not frozen. On the one hand, the description of each language is likely to continue to be enriched every day - the descriptions of the different languages do not all attest to the same state of progress of the project. On the other hand, it remains open to the description of other languages, representing the same Romanesque and Germanic families or opening towards other families.

Each language is developed separately from the others, although at the same time as the others. If the parallelism between the languages allows the user to easily switch from one language to another, the autonomy of each version is also a major asset for the development of the platform, which can accommodate new languages without de-structuring or reorganizing the work already carried out

## Virtual mobility

MultiGram can easily be used by teachers and students all over the world.

## Opportunity to train others

Teachers and students need a training to learn how to encode data in the platform. For the rest, the MultiGram model is very clear.

## Contact

› Sabina Gola:  
[sgola@ulb.ac.be](mailto:sgola@ulb.ac.be)





## 5.4.2. How to Teach (almost) Anything in FabLabs

### Faculty / domain

Faculty of Sciences | Faculty of Architecture | Faculty of Law | School of Engineering

### Brief description

Facing an uncertain and rapidly changing future, Fablabs are a great environment to teach social and technical skills that are relevant for the 21st century.

At Fablab ULB, Victor Lévy, a professor of architecture and Denis Terwagne a professor of physics, are experiencing and developing an agile teaching method to make students work with digital tools in interdisciplinary teams and to make a real-world impact.

Starting with a “real world” problem, we guide the students to define their own assignment. To run the class, we use collective intelligence and tools from sociocracy. We help the students to use the digital tools within a Fablab and have a conversation with authentic audiences from all around the world.

During a semester, we guide classes of 20 to 50 students coming from different faculties such as Architecture, Sciences, Engineering and Law. Students work in interdisciplinary teams of 2 to 4 students and work together developing open-source projects related to some real world problem such as the humanitarian emergencies due to the Kerala floods that happened in India in August 2018 or the impact of digital fabrication on the Cuban Resilience.

As teachers, we are driving this semester long workshop in a flexible and agile way to keep it dynamic and to allow optimal action.

The objectives of this class are to open students to new technologies, to digital fabrication tools, Fablabs and new practices enabled by them. All along this class, students work in an interdisciplinary environment, with a social and technical view

through a creative and a dynamical process that is individual and collective.

Since this year, we are developing a new version of this class using a methodology that originates from Fab Academy (<https://fabacademy.org/>) which is a model of globally distributed education through Fablabs. At Fablab ULB, we are designing a set of crash courses on different and interdisciplinary topics related to digital fabrication and fablabs.

These courses/modules are taught by a variety of experts in their field at the destination of students of different disciplines. The students have to learn and integrate those new skills in a final project that is oriented towards their field of expertise and shared on the web for others to see. This year, based on this mentoring team and this set of modules, we are teaching two classes at Fablab ULB : “How To Design (almost) Anything” for architect students and “How To Make (almost) any Experiments” for scientific and engineering students.

Building on these experiences, we believe that Fablabs are a great opportunity to transform learning and to create resilient citizens ready for tomorrow.

### **Going further:**

- › Website: made by the students related to the Cuban resilience (2019): <https://fablab-ulb.gitlab.io/enseignements/2019-2020/fablab-studio/website/>
- › Paper: Denis Terwagne & Victor Lévy (2020). Fab for Kerala: how Teaching in Fablabs can help in the real world, the Making Of: <https://zenodo.org/record/3906207>
- › Website: made by the students related to the 2018 Kerala floods in India (2018): <http://fablab-ulb.be/dfs-q1-2018-2019-projets/>

### Impacted learning results

Throughout the class, students learn to

- › sharpen their observation skills, their autonomy, their reasoning and resilience skills;
- › experiment, use rapid prototyping and digital fabrication tools to explore and develop an experimental and creative project;
- › reflect, write, and share on their learning process

- › exploit and sharpen their intuition, using trial and error (action before analysis);
- › develop a global and a frugal approach based on observation and questioning at multiple scales;
- › work as an individual in a group using collective intelligence tools;
- › cross disciplines and take advantage of the specificity of each discipline in a collaborative and interdisciplinary project.

## 🚩 Language

This class can be taught in English.

## 💻 Virtual mobility

This class is well suited for distributed education. Our class is designed to be taught immersed in a FabLab environment. Originating from MIT, there are more than 2000 FabLabs evolving as a network. Collaboration in between FabLabs is eased by the fact that we share a common knowledge and know-how on digital fabrication.

At FabLab ULB, we already have 4 years' experience of distributed education as we are instructing and contributing to the Fab Academy program. The Fab Academy is 5 months fast paced, hands-on learning experience where students learn rapid-prototyping by planning and executing a new project each week, resulting in a personal portfolio of technical accomplishments. It is a distributed rather than

distance education as students work in local groups which are globally connected (250 students in 70+ fablabs every year). <https://fabacademy.org/> Since this year, at FabLab ULB, we are working on an introductory version of the Fab Academy for students from different faculties of ULB. This class is designed to be scalable and could be extended to other universities that have access to a FabLab.

## 🔄 Opportunity to train others

This class is mind shifting.

It requires to learn through experience (experiential learning):

- › the power of digital fabrication tools through hands-on learning.
- › the power of collaboration through digital tools and platform (github, gitlab, git, ...)
- › the power of interdisciplinary collaboration and how a diverse group of people can solve difficult problems
- › the power of collective intelligence and sociocracy tools.

We would be happy to share the method we follow and our experience conducting this class.

## ✉ Contact

- › Victor Lévy:  
[vlevy@ulb.ac.be](mailto:vlevy@ulb.ac.be)
- › Denis Terwagne:  
[denisterwagne@ubl.ac.be](mailto:denisterwagne@ubl.ac.be)



### 5.4.3. TANDEM

#### Faculty / domain

The linguistic Tandem project is a project of the Faculty of Lettres, Traduction et Communication, in collaboration with the VUB (Vrije Universiteit Brussel). Launched in 2010, it aimed to create, between students of different mother tongues (regular students from all faculties as well as international students), face-to-face linguistic tandems, with the idea of implementing in students' mechanisms of language comparison and mutual understanding, on the one hand, and, on the other hand, to arouse the desire to discover the other's language and culture. It has been extended to all the staff of the university and particularly affects members of the administrative and technical staff.

#### Brief description

Linguistic tandem is a way to learn languages. Through it, a student can develop his/her skills in a foreign language by meeting and sharing activities (concerts, ballets, exhibitions, theatre, cinema, shopping/social activities, sports, reading, newspapers, magazines, television, internet, restaurants, cafés, excursions, university courses, lectures ...) with a fellow student whose mother language is the one he/she wants to enhance. In return he/she will help his/her tandem partner to improve his/her knowledge in his/her own mother language. A tandem can be taken for one single term or for a full academic year. In order to obtain a validation of 5 ECTS or an attendance certificate the students must meet the following requirements: 15 meetings of 2 hours each with his/her partner; schedule and theme to be determined in agreement with the partner (these activities must run over the whole period of the tandem); one intermediate report after 6 activities; one final report over the 9 last activities; one log book about the progression of the linguistic acquisition; a bilingual file drafted with the partner on a common theme; one final meeting with the assistant in charge of the tandem in order to evaluate their work. The activity report (Interim Report and Final Report) on each activity should be a minimum of 500 words. Each report

must be corrected by the Tandem partner. The two activity reports should comprise 1000 words in total. In the linguistic report, students must specify their language level at the beginning of the Tandem Project (according to the criteria in the Logbook).

The points to be covered in the Linguistic Report are morphology/word formation (progress made in the knowledge of articles, nouns, adjectives, pronouns, verbs etc.; orally and in writing); syntax (progress made in sentence structure, e.g. in the order of words in a sentence; orally and in writing); lexicon/vocabulary (progress made in word/vocabulary knowledge belonging to different word categories, e.g. sport, cooking, politics, cultural traditions; orally and in writing); learning style (how have they organised their learning during the Tandem project; orally and in writing); specify what methods partners have used to correct their respective errors; orally and in writing; specify the tools they have used to improve their knowledge of their mother tongue and their target language; orally and in writing: e.g. the Internet, grammar books, electronic grammar references, a variety of other books, etc.; linguistic oddities (different aspects of the language which they find interesting which do not exist in their mother tongue; e.g. 'false friends' which exist between the two languages, particular forms of discourse/speech, idiomatic expressions, word order in a sentence, etc.); their opinion: Has his/her partner's language level improved after the Tandem experience? (Does s/he make fewer mistakes? Had s/he integrated your corrections into his/her language? Is s/he surer of her/himself when speaking?); what are the pedagogical advantages of learning in a Tandem partnership, which you could never have in a traditional language lesson?



The Theme-Based Bilingual Dossier should contain about four pages (1000 words minimum in each language) written in the two languages being learned, the theme should be chosen

jointly by the Tandem partners. Each student will complete the dossier in their target language. « The theme » of the dossier must be approved by a Tandem assistant. Both dossiers in the target language must be corrected by the mother-tongue speaker of the language.

2010-2020: 827 tandems (1654 students)

## 🕒 Impacted learning results

In this linguistic exchange, the students deepen their knowledge of a foreign language and of their mother tongue, independently. They also learn to measure their learning; they think about how they learn a foreign language. From their reports, we learn that what students appreciate most is that they feel much more comfortable in speaking, they are no longer afraid to speak in front of others. In addition, they are opening to a new culture, which allows them to broaden their horizons and overcome stereotypes.

## 🌐 Language

The linguistic Tandem project is a multilingual project. It fits perfectly with internationalisation and can be adapted to other learning.

## 🖥️ Virtual mobility

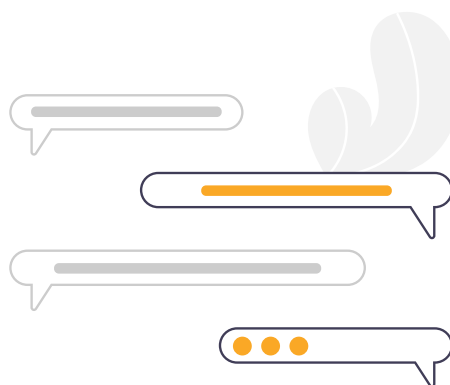
The linguistic tandem project could be subject for virtual mobility of students and academic staff. Since 2019, we have three virtual tandem projects:

- 1) with the university of Brno (Czech Republic) for French and Czech languages as part of language courses;
- 2) with the university of Aix-Marseille and the Université du Québec à Montréal (UQÀM) for French and Spanish languages, as autonomous learning.

Each of these universities is already setting up face-to-face tandems or twinning arrangements between students who wish to learn or deepen the language of partners who find themselves temporarily or permanently for their studies in one of these universities. The objective of this pilot project is, on the one hand, to allow students to broaden their intercultural experiences through contact with students from different countries; on the other, from a language learning point of view, to become aware of the linguistic variants that characterize languages in relation to the country - French from

France, Belgium and Quebec, Spanish from Spain and Spanish-speaking countries of America; 3. with the university of Florence for French and Italian languages, as autonomous learning.

In 2021, it will be developed the projet PENSA (pour une Pédagogie développant l'Esprit critique pour un Numérique Soutenant l'Autonomie et la citoyenneté) with the universities of Aix-Marseille (France), Autonoma de Madrid (Spain), Bucharest (Romania), La Sapienza in Rome (Italy), Université Libre de Bruxelles (Belgium) by linguistic tandems.



## 🔄 Opportunity to train others

The linguistic tandem project can be adapted to all languages studied in the same university or in different institutions in different countries and to other subjects of study. The most important thing is to identify the objectives of the exchanges and build a model on which the students can base themselves to carry out their work.

## ✉️ Contact

- Sabina Gola:  
[sgola@ulb.ac.be](mailto:sgola@ulb.ac.be)

## 5.5. Universidad Autónoma de Madrid

### 5.5.1. Microvideos in Medicine: Cell Motility – Team Driven Project Based Learning (TD-PBL)

#### Faculty / domain

Faculty of Medicine

#### Brief description

Team-Driven Project Based Learning (TD-PBL) is a teaching approach derived or evolved from the well established Team Based Learning (TBL) approach. TBL is a teaching strategy in which learning is achieved through individual study and teamwork. In TBL instructor's lectures are replaced by a process involving self-learning and teamwork in which communication between students, mutual teaching and tutoring are essential. In addition, it incorporates evaluation practices such as self and peer evaluation. It is a well-structured flipped approach divided into three phases, pre-class preparation, Readiness Assurance Processes (RAP) and course content application. These processes are repeated several times throughout the course, once per lesson or better, knowledge block. During pre-class preparation and RAP phases, students acquire and consolidate basic knowledge on the topic, and, in the application phase, they learn how to use that knowledge which deeply increases the quality of their learning. In classical TBL the content application phase is based on solving specific problems or questions in which students must make specific choices whose answer is simultaneously reported.

Meanwhile, the first two phases of TBL remain the same in TD-PBL, in the content application phase students get engaged in a short project that is developed through several sessions, usually one to three. To allow for fast project progress and reassure teamwork, we have created a rotatory work process. The project is divided into three pieces, each of which is worked out in three phases: Draft, Revision and Correction. Each phase is carried out by a pair of students, teams are usually composed of six members, in rotation: The first couple makes the draft, second revises it and suggests corrections and

the third implements the corrections and assembles the final version. All three pairs work in parallel in the three pieces of the project. At the end of the process, all three couples have contributed to all three pieces of the project making the final product a true team one. During the process, the revision phase happens to be a peer review process that drives students to critically analyse their team peers work and then make decisions accordingly. As a result, students improve in their capability of criticism acceptance and decision making. It is important to mention that teams remain stable for the whole course but couples within the team changes with the project, so every student has to work with each other which usually strengthen team bonds and improves product quality and therefore learning. Project development deepens student knowledge and understanding of the topic while developing transversal competences, the so-called soft skills, such as creativity, critical thinking and critical analysis of their work and that of third parties or self and team accountability just to cite some.

TBL as a teaching approach has largely shown its success in the literature and we have been successfully used it in "Biología del Desarrollo" ("Developmental Biology"), an elective course for 4th years students of the degree in Biochemistry, for the last six academic years.

The proposed TD-PBL strategy has been implemented in the optional subject "Microvideos en Medicina; Motilidad Celular" ("Microvideos in Medicine; Cell Motility") for first year students in the Faculty of Medicine. In this course, after the RAP phase of TD-PBL, student's projects are the construction of 5/7 minute videos on key concepts or topics. Student-crafted videos are intended to be used by other students and as such, they will be used as part of the material given the following year to students taking other subjects. In this manner, the course contents are kept alive and evolving through the years. TD-PBL strategy has evolved in "Microvideos en Medicina; Motilidad Celular" for the last four years, a period in which it was awarded with three teaching innovation grants from the UAM, receiving very high priority (above 9/10 in the first and last one).

The success of the approach is shown in both institutional and our own satisfaction surveys. Student perception of their own learning is very high, as it is for their evolution in teamwork capability

and soft skills. As an example, over 80% of the students perceive they have significantly improved the capacity for both accepting criticism from third parties and decision-making skills.

### 🕒 Impacted learning results

Besides the knowledge acquisition specific of the field, the proposed module aims to impact several other competencies such as:

- › Critical and self-critical reasoning
- › Collaborative teamwork and shared responsibility
- › Ethical commitment and concern for professional deontology
- › Autonomous Learning
- › Problem recognition and analysis; identifying its essentials and planning a strategy to solve it
- › Communicate knowledge area specific and general information clearly and effectively
- › Capacity of analysis and synthesis
- › Decision Making
- › Creativity
- › Initiative and Leadership

### 🚩 Language

TD-PBL is a teaching approach not linked to any specific discipline; hence, it can be easily implemented for any topic or level and in any language. We cannot foresee any barriers or limits to the implementation of TD-PBL in any language or knowledge area.

### 🖥️ Virtual mobility

Being a flipped teaching approach, TD-PBL is one of the best choices for virtual mobility experiences for both, students, and academic staff. The RAP is carried out through the Moodle platform, although any other LMS could be used. The projects could be developed by the team through any of the available online platforms allowing teamwork such as Teams, Zoom or any other. The rotatory teamwork system used in TD-PBL makes it an option of choice for virtual exchange. Teams can integrate components from different locations and the rotatory in-pairs working approach will allow for progressive integration of team members from different locations.



### 🔄 Opportunity to train others

Reflect on the possibility to transform and conceptualize your case of innovative pedagogy in a module to train other academics on designing and implementing something similar.

We have already carried out some training activities within the context of a CoP and it would be absolutely feasible to transform the proposal into a training module so it could be implemented elsewhere.

### ✉️ Contact

- › Juan Arredondo Lamas:  
[juan.arredondo@uam.es](mailto:juan.arredondo@uam.es)
- › Mar Perez Martinez:  
[mar.perez@uam.es](mailto:mar.perez@uam.es)

## 5.5.2. Mentor Program: teaching, learning and assessment

### Faculty / domain

Teaching and Innovation Program.

### Brief description

The two-year new program at UAM seeks to provide practical guidance for academics at the time of supporting a culture of teaching and learning through Mentoring. Organizations and institutions have recently rediscovered the use of mentoring as an instrument to support learning and knowledge. The literature consistently reports mentoring to be a valuable tool in both professional and personal development with benefits for mentees, mentors, organizations, and development agencies.

The first pilot mentoring programme was set in the academic year 2019-2020, aiming to provide guidance through all stages at which a professor may go through to become a mentor.

This program is developed in three steps, fitting a 25 ECTS scheme. It provides different specialised support to enhance teacher's knowledge and skillset, by providing practical guidance:

- › a) Acquisition of basic skills (9 ECTS): Adapting teaching to more innovative student/environment characteristics by using diverse methods, techniques, approaches, strategies, and creativity.
- › b) Core Program (11 ECTS): Good Practices; self-assessment and reflection; peer-observations and feedback; creation of teachers' networks; workshops led by experts in mentoring and educational advice.
- › c) Project (5 ECTS): Portfolio & Evidences of changes in the teaching and learning process of mentees and assessment of these changes.

This program:

- › Pursues to help young and unexperienced teachers to connect with an experienced mentor and receive support during their first years of teaching.

- › Seek to provide direction and strategies to facilitate the introduction of viable and successful changes in teaching.
- › Looks for an exploitation of collaborative synergies among university educators and their framework through broader networks to multiply and improve positive externalities. Therefore, the program seeks to create and more important, establish CoPs (communities of practice).

### Impacted learning results

There is evidence that mentors may benefit from relationships with other educators, including socio-emotional growth, more quality teaching, and communication skills besides institutional recognition, and personal satisfaction. In addition, this Program aims to impact several other competencies that will be positively affected:

- › Collaborative and constructive learning
- › Connections with other teachers with the same problems and interests
- › Leadership skills, teamwork, and communication skills development.
- › Observations of teaching practices that can be emulated, reducing the costs of implementing new teaching strategies or learning methodologies.

### Language

Multilingual environment: materials can be easily translated into multiple languages and academic staff could offer training in different languages.

### Virtual mobility

- › Virtual Networks of Practice could be set to support teachers to learn and improve in their practice in teaching and learning by sharing their expertise and experiences.
- › Mentoring has been traditionally provided in person; however, an increasing number of e-mentoring is being implemented.
- › Blended learning approach. Some courses of the programme are offered on-line.

## Opportunity to train others

This program intends to provide communities of practice for blended and active learning innovation to share knowledge, change some practices, and assess the results from active learning innovations. UAM first Community of Practice and Mentors can provide staff to advise on the development of training to support international learning communities.

## Contact

- > Maria Gil Izquierdo:  
[maria.gil@uam.es](mailto:maria.gil@uam.es)
- > Andrés Maroto:  
[andres.maroto@uam.es](mailto:andres.maroto@uam.es)
- > Nadia Fernández de Pinedo:  
[nadia.pinedo@uam.es](mailto:nadia.pinedo@uam.es)
- > Juan Antonio Huertas:  
[juanantonio.huertas@uam.es](mailto:juanantonio.huertas@uam.es)





### 5.5.3. Service-Learning

#### Faculty / domain

School of Teacher Training and Education

#### Brief description

Service-Learning is an innovative pedagogical approach that integrates meaningful community service or engagement into the curriculum and offers academic credit to students for the learning that derives from active engagement within the community and work on a real-world problem. Reflection and experiential learning strategies underpin the learning process, and the service is linked to the academic discipline. Service-learning brings together students, academics, and the community, whereby all become teaching resources, problem solvers and partners. In addition to enhancing academic and real-world learning, the overall purpose of Service-Learning is to instil in students a sense of civic engagement and responsibility and work towards positive social change within society. Service-Learning projects include activities of reflection about the academic learning and the social and personal impact, as well as dissemination activities.

Service-Learning started at the School of Teacher Training of UAM in 2008 when, with the support of the Teaching Innovation Programme, a group of professors in various subjects decided on their own initiative to use Service-Learning in their teaching. Since then, UAM has promoted Service-Learning in all Faculties through its annual call for financing Teaching Innovation projects and by offering every year training on S-L to teachers from all Faculties through the University Teacher Training Programme. To support the sustainability of the Service-Learning program at UAM, the Office of Service-Learning was recently created with the aim of promoting the practice and research of this methodology in all Faculties. The momentum that is taking place at UAM is a microcosm of a larger social phenomenon that can enhance a change in university practices across Europe. With that belief, UAM is strongly committed to disseminating S-L in European Higher

Education. In that regard, it is leading the European Association of Service-Learning in Higher Education and the European Observatory of Service-Learning in Higher Education.

In the current academic year, more than ten S-L projects have been carried on, and seven new ones have been designed for its implementation in 2020-2021. The following are some examples: "MicroWorld: Citizen Science for the discovery and awareness of the use of Antibiotics" (Biology and Medicine), "Campaign to promote health, clean water and sanitation before groups with deficient infrastructure" (Chemistry), "Interweave your neighbourhood: new forms of leisure for youth through local historical heritage" (Art History).

In the School of Teacher more than forty Service-Learning projects have been carried out in the field of teacher training since 2008. The projects tend to have an explicit focus on social justice, mutual trust, inclusion, and tolerance without discrimination. Professors involved in this initiative developed a monitoring system to analyse the effects of Service-Learning on future teachers' development. They created working communities in a web-based virtual learning environment, Moodle UAM, that provides assessment, student tracking, collaboration, and communication tools. Over twelve years, 2.248 future teachers from 24 groups developed numerous reports on Service-Learning experiences that led to the creation of an extensive documentary database for conducting educational research.

Twenty-four scholars have been involved, including one librarian, four doctoral students, eight master students and six undergraduate students. Sixteen students in the Master of Quality and Educational Improvement and the Master's in Information Technologies and Communication in Education programs completed internships in the Service-Learning program. Four doctoral dissertations on the topic have been defended. Several research projects have been conducted, and multiple journal articles and books were published. UAM has also organized three international conferences and led an Erasmus+ project for mapping Service-Learning in European Higher Education institutions and promoting the use of this methodology.

## DESCRIPTION OF A SERVICE-LEARNING PROJECT

As an example, one of the Service-Learning projects in the School of Teacher Training and Education is entitled "Care for Children of Mothers in Penitentiary Centres". The project is integrated in the subject "Theoretical Foundations of Early Childhood Education". Participants are 10 students, who do 100 hours of direct service to the community in a period of 8 months. They receive 8 hours of training about Service-Learning provided by UAM personnel, and 8 hours of training about the service and the beneficiaries by the community partner, AMPARA.

### Context:

In the Mothers' Unit there are incarcerated women who cannot live the prison because of their penitentiary conditions. They participate in educational and therapeutic programs that are taught in the Unit itself.

The Law allows women who are serving sentences to live with their children in prison until they are 3 years old. These children live in prison with their mothers at a stage in life in which their personality is outlined. During these years of life, the stimuli, learning and behaviours that promote the development of children are determining factors for the rest of their lives.

The objective of the General Directorate of Penitentiary Institutions is that all children living in prison have daily access to a "normal life".

The AMPARA Association carries out various activities in this Mothers Unit thanks to a project agreed with the General Directorate of Penitentiary Institutions (Ministry of the Interior). These activities are aimed at minors who live in prisons because their mothers are incarcerated.

This project started in the 2015/2016 academic year.

Service objective: Attention to children at risk of exclusion.

There are two types of activities:

- The AMPARA Association organizes workshops for mothers. To attend the workshops, they need volunteers to accompany and play with their children (0-3 years old) for facilitating them stimulating and leisure experiences.
- On weekends the children are in prison unless the AMPARA Association volunteers (including

UAM students) take them for a walk to a park. Every weekend the UAM students go outside with the children (9 months-3 years living in the Mothers' Unit, and siblings 4-6 years old). Only with the support of the volunteer students these children can have contact with other people and go outside, so their role is essential for their normal development.

Learning objectives:

- To understand the educational and learning processes in the 0-6 years old period in the family, social or school context.
- To know the fundamentals of early care.
- To recognize the cognitive, psychomotor, communicative, social, and emotional characteristics of early childhood.
- To know the pedagogical dimension of children's interaction with peers and adults, and promote participation in collective activities, cooperative work, and individual effort.
- To critically reflect on the following contents of the subject: The right to education, and equity in education.
- To know the value of informal education contexts as learning opportunities for children 0-6 and discover their contribution to their development.

### Community partner:

The AMPARA Association has a long experience in providing this kind of service in the Women's Unit of the penitentiary centre. They are allowed by the Ministry of Interior to enter the penitentiary and conduct the activities.

### Reflection topics:

Expectations and motivations to participate in the S-L experience, social justice, equal opportunities, social commitment, prison regime, prison policy, attention to diversity, children at risk of social exclusion.

### Communication and dissemination activities:

- Different aspects of the project are published regularly through social networks (Facebook and Twitter)
- Paper presented at the Spanish Conference of Service-Learning in Higher Education
- Video uploaded on YouTube.

## Celebration:

Once the project has been completed, an informal meeting is organized for celebrating together the children, students, teacher, and the representative of AMPARA.

## 🕒 Impacted learning results

Evaluation of progress and results is conducted via surveys and reflection essays by the student (individual and group), the teacher, and representatives of the community partner.

Through the project, students acquire knowledge and develop professional competences linked to the subject (described above), but they also have the opportunity to apply knowledge acquired in the classroom to work on real multidisciplinary problems. Also, transversal competences are developed:

- › Capacity of analysis and synthesis
- › Capacity of organization and planification
- › Problem solving
- › Making decisions
- › Autonomous Adaptation to new situations
- › Creativity
- › Leadership
- › Initiative and entrepreneurship
- › Sensitiveness towards the environment
- › Teamwork
- › Abilities for interpersonal relations
- › Acknowledgement of diversity & multiculturality
- › Critical reasoning
- › Critical and self-critical capacity
- › Capacity for communicating with experts from another field

## 🗣️ Language

Service-Learning can be used in any subject of any degree and in all universities. Translation of training, evaluation and other resources is easily made.

International Service-Learning projects can also be organized, in which students can travel abroad for conducting a service activity in another country. It is possible to organize Service-Learning projects with the participation of students from different countries. This is called "International Service-Learning"

## 💻 Virtual mobility

On-line Service-Learning projects can be carried on in other countries. This is called "International On-

line Service-Learning".

## 🔄 Opportunity to train others

UAM has an extensive experience in training on Service-Learning, locally, nationally, and internationally. Training materials can be shared with other trainers.

## ✉️ Contact

- › Pilar Aramburuzabala:  
[pilar.aramburuzabala@uam.es](mailto:pilar.aramburuzabala@uam.es)

## 5.5.4. Social Media: collective interactions to teach Economics – Social Media Based Learning (SM-BL)

### Faculty / domain

Faculty of Economics and Business Administration

### Brief description

In today's world of associated learning, the impact of social media on education is becoming a dynamic factor. The world is getting reduced, and using technology such as social media, the way we bring instruction is varying. The technology referred here really transpires just social media technologies such as Facebook, Twitter, and Instagram. The technologies that allow these stages to function are also one of the powerful forces behind the effect of this technology on education. There are positive and opposing effects of social networking to students to students, and the board is still out regarding the long-term effects of social media coverage may have.

Faculty today must be more technical understanding than any age group previously as the students not only favour communication through these methods they expect it. The acceptance of social media in daily life is one of the driving forces behind these varying prospects and how social media is changing education.

Taking advantage of technology, virtual interaction in social networking sites becomes a daily activity of many college students. The ubiquity of online social networking has resulted in their pedagogical applications in higher education institutions. Within this social framework, Social Media Based Learning (SM-BL) is a teaching approach or strategy in which learning is achieved through individual and collective interactions using social media. Uses are diverse according to the main objectives of the learning and the characteristics of the class sample. For instance, information and communication channels, evaluation procedures as One Minute Tweet, self and peer evaluation techniques, feedback channels...

It is reported that, in the educational research field, college students' social networking behaviour is

also positively associated with their academic achievement (Hwang et al., 2004). According to social integration theory, interactions with peers and faculty through social network activities will:

- › 1) Bring them physical and psychological well-being (Steinfield et al., 2008)
- › 2) Nurture and maintain individual students' integrity and commitment to their universities, which leads students to heightened university life satisfaction (Bargh et al., 2002; Helliwell and Putnam, 2004)
- › 3) Strengthens retention in the universities, especially for first year students in their transition period (Thomas, 2000; Tinto, 1987), which will, in turn, shape their academic integration (Tinto, 1987) by way of better role clarification and more active engagement in peer-supported communities on aspects of academic life.

The proposed SM-BL strategy has been implemented in the subjects on Microeconomics and Industrial Organization in graduate courses on Economics and Business Administration. However, the SM-BL can be used in any subject and level of undergraduate, graduate, and postgraduate courses.

The success of the approach is shown in both institutional and our own satisfaction surveys. Student perception of their own learning is very high, as it is for their communication and digital and technological skills. As an example, over 66% of the students perceive they have significantly improved the capacity for self-evaluating and the communication between teachers and students has increased around 2 thirds.

### Impacted learning results

Besides the knowledge acquisition specific of the field, the proposed module aims to impact several other competencies such as:

- › Psychological well-being, such as self-esteem and satisfaction with life – Digital autonomy and digital security;
- › Critical and self-critical reasoning;
- › Autonomous Learning;
- › Problem recognition and analysis; identifying its essentials and planning a strategy to solve it;
- › Communicate knowledge area specific and general information clearly and effectively.
- › Capacity of analysis and synthesis;
- › Decision Making;

- › Creativity;
- › Initiative and Leadership.

## 📄 Language

MSM-BL is a teaching approach not linked to any specific discipline; hence, it can be easily implemented for any topic or level and in any language. We cannot foresee any barriers or limits to the implementation in any language or knowledge area.

Main social networks are developed into all languages and some language has even their own social networking.

## 📱 Virtual mobility

Social media as an online tool are one of the best choices for virtual mobility experiences for both, students, and academic staff. The case studies and examples could be developed using some of the main social networks (Twitter, FB, IG...)

## 🔄 Opportunity to train others

UAM is ready to offer some of these courses as well as new courses to other students and academic staff interested in some of its areas of expertise. Moreover, UAM offers several online courses oriented to teach professors how to design and implement new online courses, having in mind the new goals and tools involved in innovative methodologies.

Our experience with social networks and online communities of practice has been disseminated in several teaching conferences and events; thus, it would be possible to offer training courses and specialized help to other faculty members to implement this type of courses. We have already carried out some training activities within the context of a CoP and it would be absolutely feasible to transform the proposal into a training module so it could be implemented elsewhere.

## ✉ Contact

- › Andrés Maroto Sánchez:  
[andres.maroto@uam.es](mailto:andres.maroto@uam.es)



## 5.5.5. Flipped learning strategies to teach Microeconomics

### Faculty / domain

Faculty of Economics and Business Administration

### Brief description

#### Type of activities

Blended video tutorials and explanations (Moodle), social media discussions, gamification and experiments, augmented reality activities, evaluation and self-evaluation techniques using Socrative, EdPuzzle, and peer review blended activities.

Area / domain: Microeconomics / Industrial Organization. Participants: ~50-100 graduate students.

#### Methodology:

- › Administration of blended material (using Moodle or other platform) at the beginning of each new topic. This material consists of multimedia presentations around the main concepts and model and practical exercises and cases studies;
- › Group discussions (both at class and using social media interactions);
- › Experiments;
- › Gamification for self-evaluating and practicing (Socrative and Kahoot mainly);
- › Sharing of evaluation rubrics with students (students are encouraged to self-evaluation and comparison with teacher's evaluation);
- › Other elements of flipped classroom as augmented reality issues and bidirectional information channels;
- › Team based learning.

#### What makes the example innovative?

It is innovative as the "lecture" scheme is abandoned. Students behave actively during classes. After 10 minutes lecturing, they have the class in order to practice and develop the models and concepts, individual and collectively, using diverse active methodologies; students know in detail how they will be evaluated and have the chance of practicing self-evaluation (which develops metacognition).

### Any evidence that it works?

Frequent formative assessments constantly monitoring the progress of learning AND efficacy of teaching; performance at summative assessments.

### Impacted learning results

Besides the knowledge acquisition specific of the field, the proposed module aims to impact several other competencies such as:

- › Critical and self-critical reasoning;
- › Autonomous Learning;
- › Problem recognition and analysis; identifying its essentials and planning a strategy to solve it;
- › Capacity of analysis and synthesis;
- › Decision Making;
- › Creativity;
- › Initiative and Leadership.

### Language

This case is available in any language. Materials are available in Spanish and English (until now).

### Virtual mobility

This case has been successfully adapted for online learning / teaching.

### Opportunity to train others

UAM is ready to offer some of these courses as well as new courses to other students and academic staff interested in some of its areas of expertise. Moreover, UAM offers several online courses oriented to teach professors how to design and implement new online courses, having in mind the new goals and tools involved in innovative methodologies.

Our experience with experimental economics for teaching has been disseminated in several teaching conferences and events; thus, it would be possible to offer training courses and specialized help to other faculty members to implement this type of courses. We have already carried out some training activities within the context of a CoP and would be absolutely feasible to transform the proposal into a training module so it could be implemented elsewhere.

### Contact

- › Andrés Maroto Sánchez:  
[andres.maroto@uam.es](mailto:andres.maroto@uam.es)

## 5.5.6. Gamification and Class Experiments Based Learning

### Faculty / domain

Faculty of Economics and Business Administration

### Brief description

Economics as traditionally learned and taught in graduate school and practiced afterward was more theory-intensive and less observation-intensive than any other science. This was because the training of economists' conditions us to think of economics as an a priori science, and not as an observational science in which the interplay between theory and observation is paramount.

However, experimentation changes the way you think about economics. If you do experiments, you soon find that several important experimental results can be replicated by yourself and by others. Consequently, economics begins to represent concepts and propositions capable of being or failing to be demonstrated. Observation starts to loom large as the centrepiece of economics

Experimental methods can be used before or after explaining the theoretical concepts and models that teachers want to introduce to their students. Another advantage is they can be implemented in flipped classrooms and blended teaching approaches. They help to test hypotheses about why certain institutions survive in the economy. Laboratory experiments enable economists to evaluate the performance characteristics of alternative institutions in controlled value-cost environments. These performance measures included: efficiency, speed of convergence, price stability, extent of price discrimination, responsiveness to changes in the environment, and so on.

Experiments in teaching Economics (and other areas) consist of three elements: an environment defining the payoffs motivating choice; an institution defining the language and rules governing communication, actions, and outcomes; behaviour, given the environment and institution. Examples from game theory, auctions, and market exchange are used to

illustrate this trichotomy.

Some of the class experiments introduced since now includes:

- › Paper airplanes game that illustrates how diminishing returns in production arise;
- › Market experiment used to introduce students to the working of competitive markets;
- › Public goods provision game suitable for exploring altruistic preferences and reciprocity;
- › Dictator game to illustrate the role of fairness and norms in economic behaviour;
- › Game theory applications.

The proposed strategy has been implemented in the subjects on Microeconomics and Industrial Organization in graduate courses on Economics and Business Administration. However, it can be used in any subject and level of undergraduate, graduate, and postgraduate courses.

The success of the approach is shown in both institutional and our own satisfaction surveys. Student perception of their own learning is very high, as it is for their cognitive skills. As an example, over 73% of the students perceive they have significantly improved the capacity for understanding the theoretical concepts they will see after experiencing games.

### Impacted learning results

Besides the knowledge acquisition specific of the field, the proposed module aims to impact several other competencies such as:

- › Critical and self-critical reasoning;
- › Autonomous Learning;
- › Problem recognition and analysis; identifying its essentials and planning a strategy to solve it;
- › Capacity of analysis and synthesis;
- › Decision Making;
- › Creativity;
- › Initiative and Leadership.

### Language

This procedure is a teaching approach not linked to any specific discipline; hence, it can be easily implemented for any topic or level and in any language. We cannot foresee any barriers or limits to the implementation in any language or knowledge area.

## 🖥️ Virtual mobility

Experiments can be online developed too, so they can be used within virtual mobility programs without any difficulty.

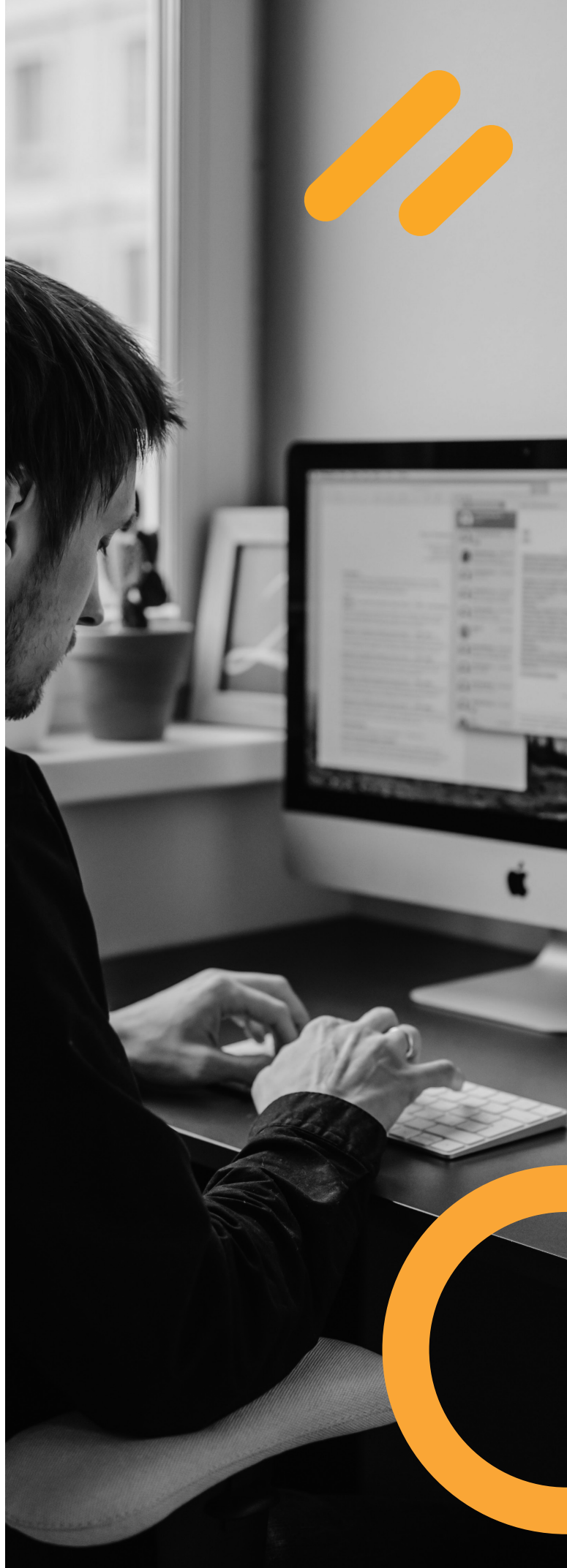
## 🔄 Opportunity to train others

UAM is ready to offer some of these courses as well as new courses to other students and academic staff interested in some of its areas of expertise. Moreover, UAM offers several online courses oriented to teach professors how to design and implement new online courses, having in mind the new goals and tools involved in innovative methodologies.

Our experience with experimental economics for teaching has been disseminated in several teaching conferences and events; thus, it would be possible to offer training courses and specialized help to other faculty members to implement this type of courses. We have already carried out some training activities within the context of a CoP and would be absolutely feasible to transform the proposal into a training module so it could be implemented elsewhere.

## ✉️ Contact

› Andrés Maroto Sánchez:  
[andres.maroto@uam.es](mailto:andres.maroto@uam.es)





## 5.5.7. Blended learning with SPOC: Basic economic concepts

### Faculty / domain

Facultad de Filosofía y Letras | Faculty of Economics and Management/ International Studies

### Brief description

Since 2014, UAM is a partner of the edX platform. As a result of this collaboration UAM has been developing an open-source platform based on edX to offer MOOCs and Small Private Online Courses (SPOCs hereafter). Currently UAM offers 17 different SPOCs and is developing new courses in several faculties for undergraduate's and master's degrees. All SPOCs are currently in Spanish; however, UAM plans to translate — or produce — some of them into English.

As our recent experience shows, SPOCs offer new synergies based on blended learning strategies and improve students' outcomes.

We present one entitled: "Basic economic concepts" This SPOC has its origin in a need detected in the classroom by means of surveys carried out in the 2014 / 2015 academic year in different undergraduate's degrees at UAM. The analysis of the data revealed a deficit of understanding and / or integration of fundamental economic concepts that frequently appear in various contexts (press, academic papers, textbooks, technical reports...) and subjects of the curricula of many degrees taught in different faculties on campus. Such concepts refer, for example, to what is and how to compare wealth, income, prices and inflation, economic growth, development, inequality, economic divergence, demographics, etc.

The main objective of the SPOC was to meet this need by teaching students a wide catalogue of fundamental economic concepts that would help them to establish and strengthen an adequate understanding of such concepts and their fields of application in connection to their studies.

The SPOC blends theory-based lecture videos, multimedia content, databases, self-assessment

activities, and extra materials accessible online associated with each concept, allowing the student to check if they can understand and apply the corresponding concept in the appropriate context. To assess the acquisition of this knowledge, and on completion of the online course, a final assessment is carried out in the class to verify that the initial objective has been met.

The SPOC is compulsory and takes place the first two weeks of the academic semester. Additionally, various activities that involve the correct handling of the concepts learned in the SPOC are undertaken. For example, students are organized in teams that must prepare and present a poster explaining, for example, the evolution of inequality in the long term in a country applying concepts and indicators learned in the SPOC. Those assignments contribute to reinforce the learning experience through their application to real-life situations as well as the opportunity to share insights with peers in face-to-face teaching.

The SPOC is taken in various first-year subjects — as Economic Divergence in the long run, Economic History, etc. — and involves more than 150 students per year. Similar SPOCs such as Case Studies in Economic History involve between 100 and 300 students per year.

This kind of "broad-spectrum" SPOC is ideal to establish a base level of students and facilitate the acquisition of knowledge on a solid basis. More than 80 percent of students consider it useful or very useful for their academic performance.

Finally, an additional advantage is that the catalogue of concepts can be expanded on a regular basis, year by year, and we can benefit from the students' feedback to improve the content and design of the SPOC

### Impacted learning results

SPOCs are suitable for students with weak abilities or no previous knowledge in some areas. It also allows students to become digitally literate or improve their level of digitization. (Many of our students declared in a preliminary survey that it was the first time they followed an online course).

Many studies have demonstrated the validity of the use of blended learning methodologies as well as the fruitful combination of on campus education with innovative online pedagogies such as SPOCs. In our experience, the SPOC allows standardizing

knowledge and the use of a common vocabulary.

This SPOC is especially suited to the needs of non-economics faculties. The approach is easy to implement and with a direct impact on the students. The outcome fits the main goal of the course: students feel more secure when handling economic concepts. The overall rating of the course was always very positive in this sense.

## Language

In an international context, language is an issue, which in most cases could be solved by using English as a lingua franca. The use of online higher education platforms is ideal for providing such a multilingual environment. Some learning activities, such as video-lectures — YouTube videos uploaded in the edX platform — can be accompanied by transcription, which may be available in multiple languages, allowing a truly multilingual approach to the materials and professors.

In order to introduce multilingualism with SPOCs currently in Spanish at the UAM edX platform, international students with language skills could help in the translation and transcriptions through the Erasmus + program, a CIVIS internship program, or even virtual internships

## Virtual mobility

SPOCs can be shared with other institutions that collaborate with the edX platform (multi-campus). This platform provides extra functionalities that may be very useful in a virtual mobility context. For example, one option available in edX is to ask for (short) writing essays, as a peer assessment, where students perform assessments of responses submitted by other learners in the course. Students from different classes and universities involved in the same SPOC can complete the assignment and assess peer responses and present or discuss their papers in a videoconference (breakout-rooms), blog or chats. As a result, virtual mobility, and communications skills in English (or other languages) can be accomplished.

## Opportunity to train others

UAM is ready to offer some of these courses as well as new courses to other students and academic staff interested in some of its areas of expertise. Moreover, UAM offers several online courses oriented to teach professors how design and implement new online

courses, having in mind the new goals and tools involved in innovative methodologies.

Our experience with SPOCs has been disseminated in several teaching conferences and events; thus, it would be possible to offer training courses and specialized help to other faculty members to implement this type of courses.

## Contact

> Nadia Fernández de Pinedo:  
[nadia.pinedo@uam.es](mailto:nadia.pinedo@uam.es)

<https://www.ibcnetwork.org/nadia-fernandez-de-pinedo>

> Félix Fernando Muñoz:  
[felix.munoz@uam.es](mailto:felix.munoz@uam.es)

<https://www.ibcnetwork.org/felix-fernando-munoz>

## SPOC

<https://uamx.uam.es/courses/course-v1:UAMx+GloEco06+19-20/about>

## 5.5.8. Blended learning with MOOC: Organ Transplantation – Ethical and Legal Challenges

### Faculty / domain

Faculty of Law | Faculty of Medicine

### Brief description

As a result of the collaboration of UAM - edX, we are offering 18 different MOOCs and developing new courses in very diverse areas.

In the course Organ Transplantation: Ethical and Legal Challenges we assess the ethical and legal challenges posed by organ transplantation.

The aim is to:

- Understand the current ethical and legal challenges raised by organ transplantation.
- Grasp the clinical circumstances surrounding organ transplantation that explain those ethical and legal conundrums.
- Learn the legal and institutional frameworks that enable the practice of organ transplantation in different countries.
- Apply the bioethical principles to the domain of organ transplantation.

Throughout the course, students will be acquainted with the ethical and legal complexities and challenges of organs' transplantation. The purpose of this MOOC is to explain the problems involving this topic by means of the video-lessons and the bibliography that have been select.

The structure is as follows:

- Each unit comprises a video-lesson in which we unfold the contents in different sub-units.
- Additional materials – flux diagrams, schemes, clips, interviews, or historical documents- summarize what is most important in the unit and will help students in contextualizing the topic that are tackle.
- Attach bibliography that is required to read for a better grasping of the contents of the lesson.
- At the end of each unit, a multiple-choice test will let students know how they are progressing in the understanding and learning processes.

In order to obtain the course's certificate a final exam, which covers all the contents of the course, is compulsory.

### Impacted learning results

This course is easy to implement and with a direct impact on the students of the participant countries. As the course is a self-paced format, all the content of the course is available from the beginning and students can go at their own pace.

One of the advantages of this technology (edX platform) is how easily it can reach many students and adapt to their environment and necessities.

The MOOC has 1200 students enrolled.

### Language

The use of these platforms is ideal for providing a multilingual environment where students can have access to international resources. This can provide a more immersive experience, allowing a truly multilingual approach to the materials and professors.

Moreover, it is possible to have part of the information in one language (i.e. audio) and other parts in a different language (i.e. transcriptions).

In this third edition of the MOOC, this course is fully bilingual in English and Spanish, so that a student may follow the video-lessons with English subtitles.

### Virtual mobility

This MOOC could be shared with other institutions that collaborate with the edX platform (multi-campus).

The MOOC, freely available to the international community, could also be employed by instructors in their undergraduate courses as blended learning tools.

### Opportunity to train others

UAM is now ready to offer some of these courses, as long as new courses to other students and academics.

Moreover, it counts on several online courses oriented to teach new educators how they should design and implement new online courses, having in mind the diverse aspects involved in these innovative methodologies.

### Contact

- Pablo de Lora & Alicia Pérez Blanco:  
[pablo.delora@uam.es](mailto:pablo.delora@uam.es)

## 5.5.9. ENCODE: An online learning platform based on spaced repetition

### Faculty / domain

Escuela Politécnica Superior / Computer Science

### Brief description

ENCODE is an online learning platform originally designed to learn computer programming languages. However, it could well be used for any other subject matter.

ENCODE is organized into courses such as C Programming, Kotlin and Android. Every course is organized into units, and every unit is divided into individual objectives, which students are invited to complete sequentially.

Each objective focuses on a simple concept that we need students to understand. The objective must be simple enough to be shown clearly on a single screen, with as few words as possible, together with a multiple-choice question, open question, or small exercise. Students cannot advance to the next objective, until the exercise is finished, and after receiving appropriate feedback.

Once a unit is completed, the student is confronted with a few selected questions with individual feedback. One of the key ingredients of the platform is its spaced repetition approach to questioning. First, and most importantly, questions are repeated. Secondly, the spaced repetition algorithm decides when to ask a question again based on the history of answers of each individual student. If a question is correctly answered, the interval for the next presentation is doubled. However, when the answer is incorrect, the question is presented again the next day. This kind of algorithm has been proved to significantly promote long-term learning. To the best of our knowledge, no other high education online platform pays so much attention to questioning as ENCODE does. Most interestingly, because of the repetition of questions, ENCODE is capable of measuring progress, individual and collective. And, in fact, the platform informs students about their progress and about which areas need special attention.

ENCODE is currently being used in some subjects of the Computer Engineering Degree. For instance, an introductory course to C programming is already showing progress: the average quality of the first answers to multiple choice questions is 3.67, while the final quality is 4.21, on a scale from 0 to 5.

### Impacted learning results

The key objective of ENCODE is long-term learning of the subject matter. To achieve this goal, a spaced repetition of questions is used.

Two types of questions are used: multiple choice and open questions. Once each question is answered, students receive immediate feedback, which allows them to evaluate their answers. In the case of open questions, students are invited to judge whether the question was hard or not. This is used by the algorithm to estimate the interval for the next presentation.

The algorithm ends up with a large amount of information: intervals for each question, the difficulty of each question, difficulty of each objective... This allows ENCODE to estimate the average next presentation interval of each student, which is a measure of the achieved long-term learning of the student.

### Language

It would be great if students could follow the ENCODE objectives in their own native languages. We have given this goal some thought. We are in fact preparing the platform for this purpose by publishing each course in one original language and inviting students to translate individual objectives in a collaborative way.

### Virtual mobility

ENCODE is an online autonomous learning platform that can be used anytime, anywhere.

### Opportunity to train others

Although ENCODE has been used to teach programming languages until now, it could be easily used to teach any subject. It comes with an easy-to-use editor for creating new courses.

### Contact

› Alejandro Sierra Urrecho:  
[alejandro.sierra@uam.es](mailto:alejandro.sierra@uam.es)

## **5.6. Sapienza Università di Roma**

### **5.6.1. Teaching Pedagogy with the Triological Learning Approach**

#### Faculty / domain

Educational Studies

#### Brief description

Experimental pedagogy in an undergraduate course at the third year of Psychology degree. The aim of the course is to provide fundamental knowledge about main learning theories and authors, and to let students experience specific collaborative techniques and an educational use of modern technologies. Students (the number varies from 80 to 110 students per year) are divided into learning groups with a minimum of eight and a maximum of 10 participants in each. Each group works both face-to-face and online, interacting in a different Moodle course for each group.

The course lasts three months and is organised into three consecutive modules, each with a duration of four weeks. Each module addresses a different part of the curriculum (learning and instruction theories; collaborative learning; and technology-based learning) but follows a similar structure. In each module the learning groups have to analyse and discuss issues raised during face-to-face encounters, study the learning material provided by the teachers, reflect upon the various topics, search and share theoretical insights connected to the course content, build collaborative products, and reciprocally comment on them by providing formative feedback.

The architecture of the course is inspired by the Triological Learning Approach, which is applied through six Design Principles (DPs) (Hakkarainen and Paavola, 2009). Here we describe examples of how some principles are used in the course.

DP1 states that Formative action must converge towards the realisation of shared objects recognised as important and intended for actual use. According to that, the meaningful object to be created by each learning group is a pedagogical

scenario that incorporates the use of technologies in collaborative learning activities and is meant to be implemented at a school or a university. At the end of the first two modules, each learning group must create preliminary collaborative products:

- › A. a conceptual map concerning the figure of the 'good teacher', and
- › B. a PowerPoint presentation of the first draft of the pedagogical scenario, focusing on the basic theoretical references.

According to DP2 It is necessary to fruitfully combine individual work with that of a team, considering individual needs and exploiting inclinations and interests. DP 2 was implemented asking students to work in groups, both face-to-face and online. In addition, students in turn had to cover specific roles that were meant to integrate individual and collaborative learning and sustain personal and collective agency and responsibility.

Interaction between groups was, moreover, supported during classroom presentations of the group-work and by the peer-review sessions, aimed at improving the intermediate products. In the three modules, each group is asked to review the products created by two other groups, define the appropriate criteria for assessing them, and provide formative advice to improve the products.

DP 6 states the importance of providing flexible mediation tools to support the learning activities. In this course, each group has its own dedicated virtual space – namely a Moodle course page – where they can discuss, add links to external resources, upload documents, share collaborative products, and much more. In addition, each course page includes links to tools such as Padlet (for brainstorming activities), Google drawings (to create online conceptual maps), and Google documents (for the collaborative writing of the pedagogical scenario).

The innovation is in the adoption of a pedagogical model that makes students active and collaborative, helping them to acquire the knowledge work skills that are fundamental in the twentieth century.

Students participating in the activities had a better score in a written text than students not participating. Moreover, students' satisfaction with the course, collected by the OPIS questionnaire, is higher than the average of the other courses in the degree course.

## 🕒 Impacted learning results

At the end of each year students were asked to fill the Contextual Knowledge Practice questionnaire (CKP, Muukkonen et al. 2017) aimed to collect students' perception of their acquisition of knowledge work skills. The CKP comprises 27 Likert-scale items, which are organised into seven scales built around TLA design principles. Each of the seven scales corresponds to specific knowledge-work skills:

- › a) Learning to collaborate on shared objects;
- › b) Integrating individual and collaborative work;
- › c) Improving objects through feedback;
- › d) Continuously developing knowledge objects;
- › e) Understanding various disciplines and practices;
- › f) Interdisciplinary collaboration and communication; and
- › g) Learning to exploit technology.

Results indicated that the course was perceived to effectively promote the majority of the intended skills.

All the structure of the course is aimed to support individual responsibility and autonomy within group work, asking students, for example, to take a specific role during the group activities.

## 🗣️ Language

The course can be easily replicated in different languages and cultures.

## 📱 Virtual mobility

This experience seems not to be particularly appropriate for virtual mobility.

## 🔄 Opportunity to train others

This model (TLA) was adopted in an Erasmus project, KNORK project, and is presented in several papers.

## ✉️ Contact

- › Donatella Cesareni:  
[donatella.cesareni@uniroma1.it](mailto:donatella.cesareni@uniroma1.it)



## 5.6.2. Experiential learning through clinical scenarios in Bioethics

### Faculty / domain

Medicine | Psychology

### Brief description

#### **Type of activities, area / domain, participants**

Role-playing based on clinical scenarios. Area: Experiential learning. Participants: Students of the “History of Medicine and Bioethics” course, in the first year of the Medicine & Surgery Degree Course.

#### **Methodology**

The first step in the theatrical play is to write a scenario that shows bioethical dilemmas. We chose genuine stories from patients in our hospitals, to assure participants that these events are not limited to ethical books, but they may also happen to them. Of course, we change the names of characters and places to respect their privacy. Every scenario has 3 parts: exposition, complication, and resolution. We terminate the play just after the climax when the ethical dilemma has occurred. Hence, this provides an opportunity to discuss and resolve the dilemma under expert supervision in the remainder of the session. It is important for the director to find appropriate actors for the roles given in the scenario. After receiving the script, the first step is to select actors for the play by matching some physical or emotional characteristics of actors with the ones of the characters of the script. Actors are chosen from volunteer medical students, interested in exploring the enjoyments of the theatre. We prefer to choose students with previous experience in theatre. About 3 to 4 rehearsals (according to the complexity of the scenario) are conducted to prepare actors for the performance. We use the experts’ opinions after the students’ discussion: A Bioethics professor instructs the idealism of ethics, and a professor in Clinical psychology teaches experiences to explain the realism of ethics in clinical situations. After the students’ group discussion, the expert panel answers the learners’ questions and explains their own ideas and comments about the session’s topic.

The other roles of the experts in the sessions include to summarize the points of participants’ discussions and to explain specific questions. Learning activities are based on complex medical scenarios, where students “enact” different roles: medical doctors, patients, caregivers, and so on.

#### **What makes the example innovative?**

Traditional didactic activities with frontal lectures are usually used in the teaching of Bioethics. The use of role-playing is, therefore, innovative. The creation of support resources for students focuses on the importance of a communicative approach, which can have a strong impact on shaping, strengthening, or changing patients’ behaviours and future actions. In this context, all the components of the communication act - verbal, non-verbal and para-verbal – must be considered.

The content of the message (e.g. words and arrangements), the body language (e.g. facial expressions, gesticulations, posture, distance) and how we say what we say (e.g. tone, pacing, volume) have the same relevance.

Not less important is the congruence between these different levels. Non-verbal and para-verbal elements can sustain and complete what is verbally said giving more power to the message, whereas discrepancies can produce misunderstandings with unpleasant consequences.

The transmission of information, the disclosure of sufficient and clear information must be intended as a first step in building an effective interaction.

#### **Any evidences that it works?**

Yes, we have used this role-playing this year and we noticed that, comparing the results of these students with the ones of the previous students, they had higher grades. Of course, it should be better evaluated, also with qualitative data. While it showed better results than the lecture method, it seems the students’ satisfaction with and involvement in the education process is increased by role-playing. Furthermore, this method provided us immediate feedback about the learner’s understanding and ability to apply concepts.

## 🕒 Impacted learning results

Through supported peer discussions (supervised by mentors or faculty members) of ethical issues, students could develop their own moral compass and intuition regarding appropriate training behaviours and practices. Moreover, their ability to identify issues, develop responses to ethical distresses, recognize their own responsibility, and identify necessary skills for appropriate actions was improved.

## 🗣️ Language

This innovative pedagogy could easily be translated and exported.

## 📱 Virtual mobility

ENCODE is an online autonomous learning platform that can be used anytime, anywhere.

## 🔄 Opportunity to train others

It could be interesting to organize a module to train other academics on designing and implementing something similar. It could be organized as a discussion on clinical cases and some general information on how to perform the activity.

## ✉️ Contact

- > Maria Caporale:  
[maria.caporale@uniroma1.it](mailto:maria.caporale@uniroma1.it)
- > Stefano Eleuteri:  
[stefano.eleuteri@uniroma1.it](mailto:stefano.eleuteri@uniroma1.it)





### 5.6.3. Active learning strategies to teach bioinformatics resources and tools for protein interactions

#### 🏠 Faculty / domain

Biological Sciences | Bioinformatics

#### 📄 Brief description

Type of activities: lectures, discussions, practical activities (tutorials). Area/domain: bioinformatics. Participants: ~20 undergrad students.

#### 🔬 Methodology

Administration of a diagnostic questionnaire to assess prior knowledge at the beginning of each new topic; group discussion of questionnaire results; pre-recorded videos or synchronous lessons (max 20 mins each); shared note taking; sharing of evaluation rubrics with students (students are encouraged to self-evaluation and comparison with teacher's evaluation); elements of flipped classroom (materials allow students to carry out tutorials on their own and discuss them afterwards with their mates and the teacher; scientific report writing (this - with appropriate feedback - entails both knowledge acquisition and the development of the ability of scientific essay writing (transferable skill)).

#### 🌟 What makes the example innovative?

It is innovative as the "lecture" scheme is abandoned. Students behave actively during classes. After 20 minutes lecturing, they are given 20 minutes to take notes in a shared document; these notes are subsequently used as a starting point to write their reports; students know in detail how they will be evaluated and have the chance of practicing self-evaluation (which develops metacognition).

#### 📊 Any evidence that it works?

Frequent formative assessments constantly monitoring the progress of learning AND efficacy of teaching; performance at summative assessments.

#### 🕒 Impacted learning results

Ability to describe problems and challenges in the computational study of protein interactions. Critical usage of bioinformatics resources and tools to study protein interactions. Ability to analyse software results.

#### 🗨️ Language

This case is available in both Italian and English. Materials are available in English.

#### 🖥️ Virtual mobility

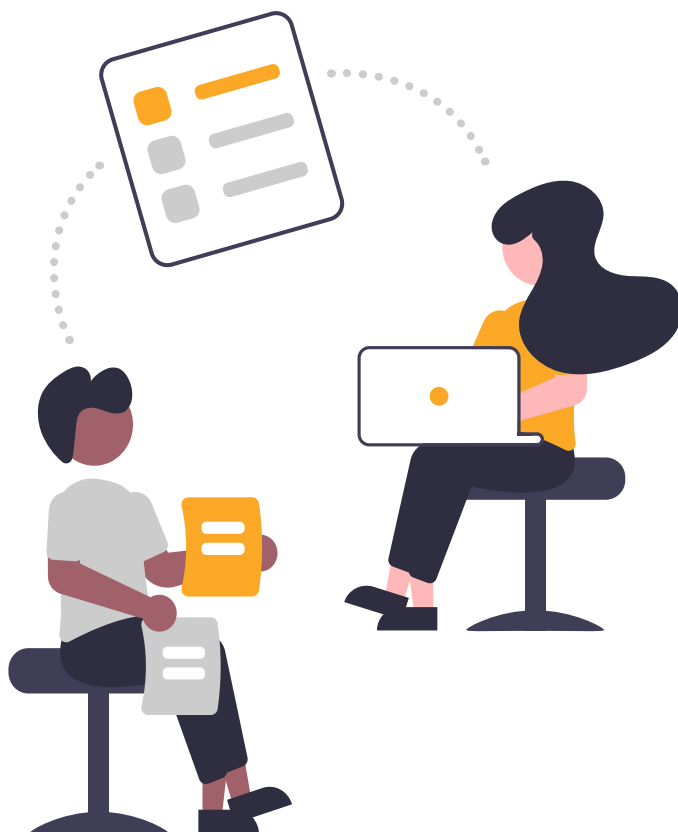
This case has been successfully adapted for online learning / teaching.

#### 🔄 Opportunity to train others

The strategies adopted in this case are already being taught within the ELIXIR Train the Trainer programme (<https://elixir-europe.org/platforms/training/train-the-trainer>).

#### ✉️ Contact

> Allegra Via  
[allegra.via@uniroma1.it](mailto:allegra.via@uniroma1.it)



## 5.6.4. Directed study programme for exchange students

### 🏠 Faculty / domain

Arts | Humanities

### 📖 Brief description

#### Types of activities

A broad range of subjects from world history to world literature and history of science in the domain of humanities and social sciences.

#### Methodology

Self-directed learning is a learning method in which students are encouraged to develop their own strategies of the learning while teachers act as coaches, providing the scaffolding necessary to facilitate learning process. Directed studies do not include conventional content delivery through lectures but are based on discussions on readings assigned normally on a weekly basis. Students have the right to organize their own plan of study/project and choose the readings they want to do otherwise they can follow a basic syllabus for each subject.

#### Innovative aspects

The combination of an innovative teaching/learning method and innovative subjects based on cutting-edge historiography with a strong emphasis on interdisciplinary, multilingual, and global topics.

#### Feasibility

This programme was directed to international exchange students and over the years we have witnessed a growing interest on the part of foreign students. Nonetheless, directed studies require a special dedication and commitment; for this reason, we had to introduce more severe admission requirements.

### 🕒 Impacted learning results

Students who undertake directed studies are encouraged to develop an independent attitude towards learning. The weekly discussions helped them improve their critical skills, participate in knowledge transfer, and peer assessment.

### 🗣️ Language

Although the programme was in English, enrolled exchange students came from a variety of countries. Joining in weekly discussions indeed resulted in a rewarding multicultural / multilingual experience though English remained the major tool of communication.

A directed study programme lends itself to be implemented in any linguistic context and it offers great potentialities for internationalization.

### 🌐 Virtual mobility

As mentioned, the programme designed and coordinated was intended for international exchange students, so mobility was implicit.

### 🔄 Opportunity to train others

We can foresee great potentialities for this, especially because a directed study programme offers a good opportunity to integrate teaching and research.

### ✉️ Contact

› Elisabetta Corsi  
[elisabetta.corsi@uniroma1.it](mailto:elisabetta.corsi@uniroma1.it)



## 5.6.5. Embodied learning in the Medical History through the use of the object-based learning: the ALCMEON Project

### Faculty / domain

Medicine | Psychology

### Brief description

#### Types of activities

Object-based learning. Area: Embodied learning. Participants: Students of the “History of Medicine and Bioethics” course, in the first year of the Medicine & Surgery Degree Course.

#### Methodology

The ALCMAEON project aims to innovate the teaching of medical history with a new educational approach, the object-based learning, and to work in a better integration of historical, ethical, and psychosocial components of medical humanities.

It represents an alternative model of medical history provision and an attempt to overcome the gap between clinical practice and historical perspective of medical humanities, through the representation of the historical scenarios and the integration of historical evidences in specific educational contents.

The ALCMAEON project will collect audio-visual material to digitalize the available collections of medical museums in Italy, Spain, Greece, United Kingdom and Romania, in the attempt to promote the different traditions characterizing European medical history and bring the medical museums in the classroom.

The project activities will be organized in the following stages:

- Stage 1 - Training package in medical history for medical humanities lecturers. This phase is devoted to creating an educational training package for medical lecturers to be used during their courses. It foresees 12 units related to medical practices in 6 historical periods.
- Stage 2 - Collection for digital medical

museum. This phase consists of a set of digital contents placed in an open access platform addressed to undergraduate medical students to improve their information concerning the historical context explored during the history of medicine courses.

- Stage 3 - Virtual video library with testimonials from role-model doctors. This phase consists of 20 videos showing the testimonials of doctors or medical lectures experts in the history of medicine, which will support the training package and consolidate the link of the history of medicine with the medical profession.
- Stage 4 - Training activity. A training course involving 10 participants from the partners' countries is organized by University Complutense of Madrid in order to: promote the use of the intellectual outputs; provide the end users with the competences and information concerning the teaching of medical history and the future of medical humanities in medical education.
- Stage 5 - Multiplier events. A number of multiplier events will be organized to disseminate the results reached, the methodology implemented, and output produced in the ALCMAEON project. The participants in the multiplier events will be University medical lecturers and students.

#### What makes the example innovative?

Traditional didactic activities with frontal lecture are usually used in the teaching of Medical History. The use of object-based learning is therefore innovative. Objects are employed in a variety of ways to enhance and disseminate subject specific knowledge, to facilitate the acquisition of practical, observational, and drawing skills and for inspiration.

#### Any evidences that it works?

We do not have still evidence from our project, the history of touch and the science behind touch, including the psychological and neurological basis of touch, was explored by both museum professionals and academics. There were many

examples of case studies, such as the development and success of a 1940's Nostalgia Room at London's Newham University Hospital. This room was created to replicate as closely as possible a living room from 1940's Britain. It contains furniture and objects either loaned from museums, private individuals or purchased. The room was geared towards elderly patients in the hospital as a place where they were invited to explore the contents of the room and reminisce. Reports note that this interaction evokes deep emotional responses in the patients who use the room (O'SULLIVAN 2008).

## Impacted learning results

The "object-based learning" approach constitutes an alternative model of educational provision through the representation of historical scenarios and the integration of data within specific contents that is highly effective for learning by students. The feedback of training experiences projected in the experience is positive.

The project intends to develop a teaching platform that makes use of museum objects and uses audio-visual tools and collections of medical art. The approach to scientific knowledge and the study of the human body in Leonardo's experience represents, in this sense, an emblematic example of visualization, experimentation, analysis, data acquisition according to a training modality based on the approach to the object of study. The impact with museum collections is pedagogical.

Promoting the study of the history of medicine through the authenticity of objects and their value as primary sources, developing a scientific reading through the impulse of the interpretation of the object and the implementation of knowledge by students is the aim of our work.

## Language

The project is funded by an Erasmus+ fund, so translation for now is planned in Italian, English, Spanish, Romanian and Greek language. Of course, it could be translated and exported.

## Virtual mobility

Mobility of academic staff is part of the project. Meetings and trainings are organized in the different Countries involved in the project.

## Opportunity to train others

It could be interesting to organize a module to train other academics on designing and implementing something similar. Probably, it could be organized as object based as well.

## Contact

- > Maria Caporale:  
[maria.caporale@uniroma1.it](mailto:maria.caporale@uniroma1.it)
- > Stefano Eleuteri:  
[stefano.eleuteri@uniroma1.it](mailto:stefano.eleuteri@uniroma1.it)

## **5.7. Stockholm University**

### **5.7.1. Flipped classroom and electronic response systems**

#### **Faculty / domain**

Social Sciences / Bachelor's in Business Administration / Finance

#### **Brief description**

Electronic Response systems (ERS) have increasingly become an important tool of higher education instruction. They have been around long enough to give content to many studies pursuing their evaluation. Given this, it is remarkably surprising the little focus that ERS has received as an actual tool for teachers to closely monitor those very same aspects of their lectures.

We show that easily accessible platforms like Kahoot!, Mentimeter or Zoom which enjoy nowadays, extensive use in higher education lecturing, store information which, if properly handled, can be used to measure crucial elements of any teaching session. This is important for two reasons. First, the evolution of attention and engagement that may be uncovered can be used to better tailor the pace and rhythm of instruction to maximize learning. Second, the impact of any new feature that the instructor chooses to introduce can also be evaluated with this information.

To accomplish this goal, we have created sensible proxies for attention and engagement. The former is based on the accuracy of answers given to tasks regularly assigned to the students in class whereas the latter aims at capturing the extent of the students' participation in such tasks. These measures require simple computations, and they provide a graphical visualization of trends within and across lectures.

Furthermore, they do not rely on self-reported data delivering an objective monitoring of attention and engagement on the spot rather than at a later stage by means of a questionnaire. More importantly perhaps, they measure dimensions of these variables which are much more useful in pedagogics

that involve active learning.

The value of these measures can be illustrated by leaning on six editions of a large-enrolment course with a flipped classroom instruction that makes extensive use of ERS where the necessary data is obtained. A graphical examination of the results reveals interesting and surprising average patterns. A second illustration involves the introduction of a contest. A first attempt with group participation delivered no impact in engagement whereas individual participation and an introduction of bonus points (although very limited) had a statistically significant positive effect.

Finally, the example also has the overall goal of emphasizing the advantages of a flipped classroom as a pedagogical tool, especially within subjects of empirical and technical content. It is the belief of many instructors that the incorporation of this tool requires a sizable investment both financial (which might be rejected by the pockets of cash-constrained higher-education departments) and personal (which might be rejected by time-constrained teachers). This presumption is unjustified.

#### **Impacted learning results**

Useful technologies and pedagogies are often disregarded by instructors in practice due to the perceived high cost of gathering the tools and data. This example shows substantial benefits of flipped classroom methods accompanied using ERS while it plays down the wildly believed high costs of their implementation.

#### **Language**

None of the tools described here are language specific. Their use can be implemented regardless of the language of instruction.

#### **Opportunity to train others**

Most of the elements of this example had already been included in workshops imparted internally at Stockholm University. Hence, there is such opportunity if the language of instruction is English, Spanish, Norwegian or Swedish.

#### **Contact**

› Iñaki Rodríguez Longarela:  
[inaki.rodriguez@sbs.su.se](mailto:inaki.rodriguez@sbs.su.se)

## 5.7.2. Making the case for Virtual Law Cases. Introducing an innovative way to teach law

### 🏠 Faculty / domain

Faculty of Law and Social Sciences – Department of Law & Department of Education

### 📄 Brief description

A group of professionals, education specialists and lawyers developed Virtual Law Cases (VLC). VLCs are digitalised, didactic material, which offer students an opportunity to practice critical and analytical reasoning and legal method through case-based, digital material. The team designed a sequenced learning pathway that lead law students through the process of applying for an alcohol license. The students followed through all the steps in an open access platform and had to answer questions throughout the process. Moreover, the students were presented with decisions and other legal documents and were asked to validate and reason about the decisions and assess whether the application was dealt with properly.

The virtual platform meant that students could interact with a large volume of genuine and authentic data and could follow a bonafide legal process. This is something students usually do not do during their law education, and so this was truly an innovative way to engage students in learning elements of law education.

In developing the case, the team utilised several elements of face and construction validity, and tested on other legal scholars and educators, as well as law students.

### 🎯 Impacted learning results

The cases offer students an opportunity to practice critical and analytical reasoning and legal method through case-based, digital material.

### 🌐 Language

Virtual Law cases could be developed in other disciplines and domains. Using open access platforms also enables students within the same

language cohort access to material.

### 🔄 Opportunity to train others

The innovation builds on a 20yr tradition in Medical Education. The case structure, and learning sequencing design lends itself well to any problem-solving area that requires analysis of material such as textbooks, research articles, research data, policy data and the like.

### ✉ Contact

> Christine Storr:  
[christine.storr@juridicum.su.se](mailto:christine.storr@juridicum.su.se)



### 5.7.3. SciPro – Supporting the Scientific Process

#### Faculty / domain

Across all faculties and programs of study as a generic system. First version applied at Department and computer and systems sciences.

#### Brief description

Presentation: <http://scipro.support/>

#### **10 different Modules, example: Examination Module.**

Efficient, fair, and quality assured online examinations of theses: bachelor, master and PhD. When all universities close campuses because of the Coronavirus (COVID-19) pandemic, new ways of examinations are needed. SciPro provides the following solution for online examination seminars and grading:

- 1. Online self-assessment evaluation by student according to universal or locally adapted grading criteria. Is the thesis ready to defend according to the student? Milestone checked.
- 2. Supervisor assessment and approval or disapproval of the thesis and communication until requirements are met. Is the thesis ready to defend according to the supervisor? Milestone checked.
- 3. Book time for final seminar (oral defence): supervisor, student, examiner. Milestone checked.
- 4. Set up the final seminar event by supervisor. Milestone checked.
- 5. Upload final seminar manuscript by student, available for all in the seminar, 8 workdays before the seminar for everyone in the seminar to read (or optional days in advance). Milestone checked.
- 6. Auto-generated originality report (Turnitin, Urkund or another provider, integrated) generated and assessed by the supervisor. Milestone checked.

- 7. Opponent(s) registration. If no opponent is registered supervisor / examiner is notified.
- 8. Active participant(s) registration. Optional.
- 9. Opponent upload opposition report aligned to grading criteria, accessible for supervisor and examiner 24 hours before the final seminar. Accessible to defending student at the seminar.
- 10. Oral seminar using zoom or skype (integrated). The seminar structure is decided by the seminar leader who usually is the supervisor or examiner. One standard process is:
  - Defending student(s) presents their thesis work with slides, 15 minutes.
  - Opponent discuss the work in depth according to grading criteria 30-40 minutes.
  - Sometimes a second opponent takes part.
  - Active participants (other students) ask questions. Optional.
  - Seminar leader concludes and informs about necessary updates of the final thesis manuscript to be graded.
  - Recoding of the oral seminar provide extra transparency for documentation and prevent plagiarism.
- 11. Examiner's / supervisor's approval / disapproval of defending student, opponent, active participants depending on their performance at the seminar. Checked milestones.
- 12. Revised thesis upload by student.
- 13. Revised thesis approved by supervisor or disapproved and supervised until approval.
- 14. Grading of the final thesis by one or several examiners and supervisor.
- 15. Grading finalized; submit grade and grading template with the final thesis and originality report for registration/archiving. Optional: submit the recorded zoom/skype seminar with thesis presentations and oral discussions, slides etc., as part of transparent documentation.

#### **Users**

Learners, the people in focus

Student, the learner who conducts a thesis work (Bachelor, Master, PhD) or a project.

Peer, a fellow student who reviews other students work

Supervisors and Examiners, the facilitators

Supervisor, academic with main responsibility to

supervise the student

Co-supervisor, academic with assistant role. It could be:

- › a) an expert only active in a certain phase of the process, for instance statistical methods,
- › b) a beginner supervisor who want to learn to supervise and do first line supervision,
- › c) a senior professor who provide advice, or
- › d) any other faculty member who is interested and want to follow and contribute to the project.

External supervisor, anyone outside the department who is interested and wants to follow and contribute to the project. The external supervisor is not responsible for the academic requirements. For example:

- › a) a business representative,
- › b) agency representative,
- › c) NGO representative,
- › d) academic from another university.

Examiner, academic assessing the quality of the thesis and grade it.

Reviewer, an academic who do thesis manuscript reviews at one or several phases in the process.

### **Administrator – local at a department**

Program Administrator: Set all settings for a program and allocate students, supervisors, examiners

Administrator: central at a university

System Administrator: set all global setting across a university or department

### **What makes the example innovative?**

Implementation of supervision theory into a universal IT-system

### **Any evidences that it works?**

About 4000 students have and 200 supervisors have used it. About 40 publications about development and results from different perspectives. The main evaluation study showed a 944% increased completion rate of bachelor and master theses and significantly higher quality: Karunaratne, T., Hansson, H., and Aghaee N. 2017. The effect of multiple change processes on quality and completion rate of theses: A longitudinal study. Journal of Assessment in Education: Principles, Policy & Practice. Routledge, Taylor & Francis online, DOI:

<http://dx.doi.org/10.1080/0969594X.2017.1303442>.

Supervisor capacity increased 10-fold and they were happier since student capacity increased.

### **🕒 Impacted learning results**

Results shown above

### **🗣 Language**

Currently the system is in English  
Additional languages can be added  
Possibilities / limits for internationalization

- › Can be applied in any university and any academic discipline
- › Universal or adapted grading criteria and process

### **📺 Virtual mobility**

Supervision and thesis work by students can be conducted at any place, any time.

### **🔄 Opportunity to train others**

Training can be conducted via online module / webinars.

### **✉ Contact**

- › Henrik Hansson:  
[henrik.hansson@dsv.su.se](mailto:henrik.hansson@dsv.su.se)



## 5.7.4. Source criticism and plagiarism prevention in higher education: analysing Wikipedia practices

### Faculty / domain

Faculty of Humanities – Department of Romance Studies and Classics – Centre for the Advancement of University Teaching

### Brief description

- › Collaborative workshops
- › Online workshops (University teachers, PhD students / Pedagogy / 25 participants from different universities in CIVIS)
- › The second possible audience is students (workshop on academic writing and source criticism)
- › Methodology (Introduction to plagiarism prevention / rules and systems of prevention / antiplagiarism tools / presentation of Wikipedia articles / Methods to use for the integration of popular facts in scientific analysis / learning strategies with the help of Blooms' taxonomy)
- › The idea is to introduce university teachers and students to platforms of source criticism to see how they could work with them in a critical way

Several workshops have been organized at Stockholm University to work with the quick access to facts (Wikipedia articles) to identify plagiarism practices. An innovative experience has been conducted at the Department of Romance Studies and Classics has been conducted between Spring 2018 and Spring 2019 on the introduction of Wikipedia references in a course on French culture. The students had to work with some facts presented in some selected Wikipedia articles. These references were included in the course literature and during the exam, the students had to answer a few questions regarding their own learn strategies. Most of the students recognized that they used a lot Wikipedia references but that they would never dare to cite these references in an academic essay. Based on the systematization of these evidences, some pedagogical workshops and

presentations were made in different Departments to invite students to quote all the used sources and work in a critical perspective with Wikipedia. The experience resulted in more attention paid to systems of references that are used in academic productions. As a matter of fact, this approach minimized plagiarism habits in the course. The results were presented in the following chapter. Premat, C. E. (2020). Wikipedia Practices, Quick Facts, and Plagiarism in Higher Education. In E. Ezza, & T. Drid (Eds.), Teaching Academic Writing as a Discipline-Specific Skill in Higher Education (pp. 199-221). Hershey, PA: IGI Global. DOI: 10.4018/978-1-7998-2265-3.ch009.

### Impacted learning results

Knowledge on source criticism, academic writing, antiplagiarism strategies

### Language

The experience can be made in different languages, it is adapted to multilingualism.

### Opportunity to train others

The idea is to avoid plagiarism practices in higher education due to the high consultation of platforms of popular facts. It is important to train critical thinking and confront these platforms with the learning outcomes of the course. Therefore, a collaborative workshop with different universities in CIVIS network could be a step forward in efficient systems of fighting against plagiarism practices.

The other challenge would be to compare the existing rules and guidelines to prevent plagiarism practices in the different universities of CIVIS network.

### Contact

- › Christophe Premat:  
[christophe.premat@su.se](mailto:christophe.premat@su.se)

## 5.8. Eberhard Karls Universität Tübingen

### 5.8.1. A practical seminar to organise an alumni fair for computer scientists

#### Faculty / domain

Faculty of Science / Computer Science

#### Brief description

Contribution to practical and professional orientation, networking. The goal of the seminar is twofold:

1. Alumni fair organized by a small group of 6-10 students during a semester. This comprises the following tasks:
  - › self-organization as a team of students
  - › each session is led by one of the students and a minute writer
  - › creation of a database with alumni contacts
  - › correspondence with alumni to invite them to the fair
  - › financial budgeting, sponsoring
  - › creation of a program for the fair, including organizational matters such as rooms, installations, catering
  - › creation of a website (see <http://alumni-report.de>), advertising material such as poster, flyers, advertising in the department
  - › documenting the whole process, lessons learned
  - › as well as the realization of the alumni fair day, including the following:
    - welcoming/taking care of the alumni, organizing the job fair stands
    - chairing one of the sessions
    - technical support
    - installation matters (set-up/tear-down)
2. Offering of an alumni fair for all students and the department as a possibility to communicating professional perspectives, featuring the following:

- › Sessions with talks, field reports, and short presentations given by alumni to introduce their company and in particular their personal career regarding their studies at the University of Tübingen
- › Job fair with companies' stands
- › Professional advising for job applications
- › Demonstrations, performances such as test vehicle prototype drives, live hacking presentation

#### **Methodology**

Learning stages / scenarios include the self-organization as a team of students where they acquire soft skills such as chairing a meeting, writing minutes, professional correspondence, organization of a whole event. They can resort to the experiences made and lessons learned by previous students in the preceding years. All stages and efforts are supervised by a lecturer/assistant and discussed within the group. Personal feedback is given to the students regarding their minutes, chairing activities, efforts in all stages. The guidance of the seminar is delegated to two lecturers/assistants according to the revolving door principle: each assistant is assigned to the seminar for two years, during the second year, the first-year teaching team takes care of the transmission of all acquired knowledge and skills to the new teaching team.

#### **What makes the example innovative?**

The idea of combining two important issues for practical relevance in the curriculum: providing an alumni fair, but having it organized by a team of students (with the help and guidance of experienced staff) who gain many important skills and contacts along this way.

#### **Any evidences that it works?**

The alumni fair together with its corresponding seminar has been offered annually during the last five years. The alumni fairs were continuously very well attended (by members of the department, students, and there always was an excessive supply of companies/alumni who wanted to participate). The students who organised the fair referred to a unique and valuable experience during their studies. Students who visited the fair report that the fair is very beneficial for them, for the practical relevance of their studies, for evaluating their future professional possibilities, for getting in touch with

and for getting first-hand-information on relevant companies. As a sequel, the course of lectures “Computer science meets industry” held by invited alumni has now been offered regularly, too.

### 🕒 Impacted learning results

Increasing the practical and professional reference.

### 🌐 Language

There are no limits for internationalization at all. The elaborated concept for the practical seminar for the organisation of a job fair with alumni of the respective study courses is universally applicable.

### 🖥️ Virtual mobility

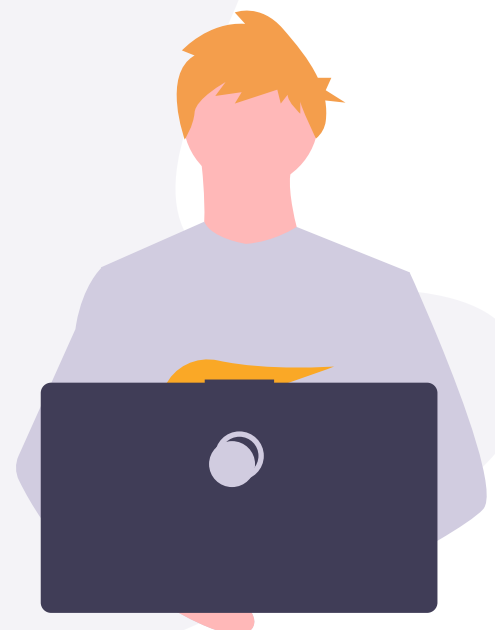
The practical seminar lives of the possibility to conduct a real fair in person.

### 🔄 Opportunity to train others

We think that our seminar and the installation of an alumni fair can serve as a model that can be easily described (no special training needed, only a short guideline for inspiration) and transferred and adapted to other disciplines and departments.

### ✉️ Contact

> Kay Nieselt:  
[kay.nieselt@uni-tuebingen.de](mailto:kay.nieselt@uni-tuebingen.de)



## 5.8.2. Data literacy for first-year students in economics and business administration

### Faculty / domain

School of Business and Economics / Statistics / Data Analytics

### Brief description

Our project is dedicated to the development of data analytics skills of first semester students on several levels. By data literacy we mean the selection and implementation of appropriate analytical methods. Therefore, it is necessary to introduce students to statistical software, programming, and working with data, in addition to their basic mathematical and statistical training. For this purpose, we have set up an open source data analysis workshop, a JupyterHub, which is accessible to students from any device which connects to the internet. This way, tasks can be worked out without the restriction to a PC lab and at a student's individual speed of learning. In this way, we enable students to gain experience in data analysis without significant entry barriers as the installation of software on their own devices is unnecessary in the first step. All that is required is a valid log-in ID of the university. Furthermore, the students can access the exact same environment at home which is also used during our lectures. This lowers the hurdle to look at and use provided program code.

More precisely, the project currently comprises four instances, which are linked to the lectures "Explorative Data Analysis" (EDA) by Professor PhD Joachim Grammig and "Mathematics for Economics and Business Administration" (Math) by Prof. PhD Thomas Dimpfl. For EDA, the theoretical concepts taught in the course are illustrated using notebooks. Videos complement and explain the questions and explain the programming, especially in R. SAS and Stata-implementations are also available but can only be used in the PC-lab of the School for licensing reasons. We also provide mathematical examples that can be used during the mathematical propaedeutic, implemented in R or Python. The goal here is to make access to the programming language as easy as possible. In the subsequent

Math lecture examples and illustrations are mainly presented with R. Students usually receive ready-to-use scripts which are introduced in the lecture, so that they can adapt them in order to understand the programming in R as well as the contents of the lecture. For the same lecture we have also implemented an online game, designed to provide an incentive to students to carry out some simple tasks of linear algebra daily. The goal here is to introduce the students to the concepts of linear algebra (which is to the greatest extent not part of the school curriculum) on a playful level. By offering the possibility to participate in a voluntary ranking, we wanted to awaken the combative spirit and ensure regular participation.

The project thus addresses two main elements: the acquisition of software knowledge, especially R and Python, which is a very important part of the set of data competencies, and the low-threshold introduction to practical data work using example data. In the short term, the strategy seems promising: both the evaluations of the courses concerned and the examinations in the winter semester 2018/19 were better than in previous years. In a more detailed evaluation of the Math course, we find that additional exercises are indeed helpful and lead to better results in the exam.

### Impacted learning results

Students learn how to use selected statistical software and gain experience in applied data work. As all offers are voluntary, students need self-discipline and commitment as all task offer a high level of autonomous learning.

### Language

As the content is designed for first-year bachelor students, all material is currently in German. We work on a translation of the propaedeutic materials to English (videos, exercises, JupyterHub) which shall be ready for the coming winter term 2020/21.

### Virtual mobility

All additional material that is made available can be accessed from any computer worldwide. Only the lectures which form the basis with respect to content are held in presence.

### Contact

› Thomas Dimpfl:  
[thomas.dimpfl@uni-tuebingen.de](mailto:thomas.dimpfl@uni-tuebingen.de)

### 5.8.3. Explanatory Annotation

#### 🏠 Faculty / domain

Faculty of Humanities – English Department / Literary and Cultural Studies

#### 📄 Brief description

A peer project based at the English department of Tübingen University, Annotating Literature focuses on annotations of literary works in English, both modern and classic. It is closely linked to a research project that has three aims:

- › 1) to define explanatory annotation, establish its theory, and develop best practice models;
- › 2) to investigate the use of explanatory annotations and their influence on reading comprehension; and
- › 3) to develop explanatory annotation as a new field in the digital humanities.

We think that the project furthers scholarly practice in the humanities through empirical research and advances the digital humanities by including hermeneutic theory and practice. Peers meet on a regular basis and discuss literary texts and their difficulties and challenges. They then set out to explain those texts to other students and readers based on annotations. The innovative aspect of the project is three-fold: for one, several skills and competences are being catered to, and students can organize their work at their own pace and within a framework that enables them to categorize the explanations according to a set of criteria; moreover, students work not only together but are involved in a research project situated in the fields of literary hermeneutics and the digital humanities; and student-work is being published online and open access.

The explanatory annotations are published here: <http://www.annotating-literature.org/>.

#### 🕒 Impacted learning results

Reading and writing skills, competency of explaining and structuring information, researching etc.

#### 🗨️ Language

This is open to all languages and literatures as the project is open access.

#### 📱 Virtual mobility

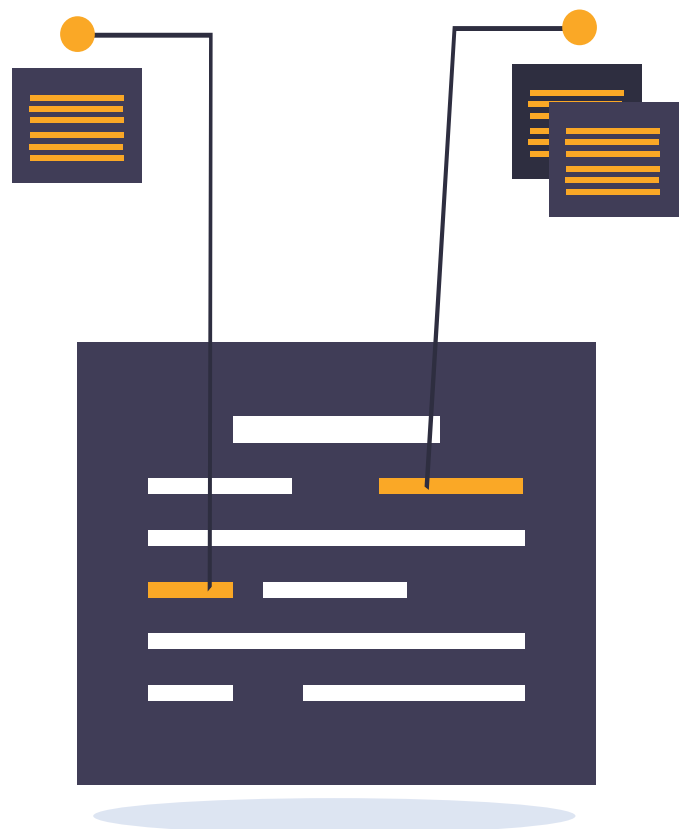
Everybody can use the platform and suggest text for annotation and annotate them (see above: the only limitation is, currently, the lack of a developer for our platform (we have some ideas for improvement).

#### 🔄 Opportunity to train others

After a short introduction into the framework of our methodology of explanatory annotation (categories and levels), everybody should be able to use this tool in their classroom. At the same time, the tool can also be used to teach those texts that are available (as in: have been annotated) already.

#### ✉️ Contact

- › Angelika Zirker: [angelika.zirker@uni-tuebingen.de](mailto:angelika.zirker@uni-tuebingen.de)
- › Matthias Bauer: [m.bauer@uni-tuebingen.de](mailto:m.bauer@uni-tuebingen.de)



## 5.8.4. City - Space - Planning: Dynamization and innovation increase of teaching on urban geography and spatial planning through blended learning

### Faculty / domain

MNF | ESIT / Geography | Urban and Regional Development

### Brief description

#### **General overview**

Our project aimed at implementing interactive teaching and learning environments and developing web-based training elements within the modules "GEO 22: Urban Geography" and "GEO 45: Spatial Planning and Professional Practice". Learning and competence objectives within GEO 22 and GEO 45 represent the concretised starting point for the blended learning activities to be developed, which are oriented towards the basic content to be conveyed. A combination of face-to-face access and online learning arrangements was implemented to promote skills and develop teaching approaches.

#### **Results at a glance**

It was found that first-year students in particular seem to be overburdened with complex formats and independent learning and are generally rather reluctant to use digitised formats, whereas advanced semesters appreciate the independence and flexibility of the formats and welcome the digitisation of selected teaching formats. No improvement or deterioration in the average grades of examinations could be observed.

#### **Results in detail**

Geo 22: In terms of implementation, seven learning modules were developed for the Geo 22 Urban Geography module, which essentially consisted of a lecture sequence (online and face-to-face lectures alternating weekly), the processing of reading texts and an optional repetition text.

The students criticized the effort of about four to six hours per week, which corresponds to the

workload of about 140 hours of self-study on Geo 22 as defined in the module handbook Bachelor. It is difficult for the students to determine which contents are «more important» than others. A certain scepticism and, in some cases, major reservations about online learning formats and digitisation efforts could also be observed, especially in the lower semesters - in particular the use of online-based terminals as a learning medium seems to be less established as a thought pattern: Here, a strong attachment to the use of presence in teaching, as it can be found in school contexts, is possibly still affecting many of the students. However, the frequently raised objection 'one is not a distance university after all' was countered by little or no use of the discussion and consolidation opportunities in the classroom lectures and seminars.

All in all, the points of criticism point to the general challenges that exist in the transition phase from school to university and, in the context of those blended learning formats that combine different teaching and learning formats, possibly represent a further increase in complexity in this context and should therefore, especially in the lower semesters, if, then rather be reduced and provided of less complexity.

Geo 45: The results regarding the implementation of the blended-learning format in the advanced semesters are almost inverse: Here there is a great approval of the developed format among the students (approx. 6 weeks of online lectures from seven learning modules with instructional videos and accompanying material, followed by a seminar as a classroom event). In particular, the individualised access to learning content was welcomed, which could be adapted both to individualised life situations (timetables, commuting, jobs, etc.) as well as to different learning speeds and was seen as a central added value.

IIIAS platform - technical restrictions

- Due to the limited file size on the platform the video sequences of the online lecture parts had to be downscaled significantly. This inevitably led to a considerable loss of quality regarding image resolution and sound quality and was criticized by the students as the videos were less easy to follow due to the lower quality as sound and image quality had suffered considerably.

- › The implementation of the online learning arrangements on the ILIAS platform requires a high expenditure of time and an intensive examination of the functionality of ILIAS when implementing different learning formats and contents. The user interfaces are less intuitive and require a detailed study which is not very attractive or even deterrent for users in 'normal' teaching.
- › Especially the improvement of content is problematic due to the synchronisation of content in the working folder for the development of the online tools on the one hand, and the export into the corresponding module folders for use by the students on the other hand - here the user-friendliness could be increased.

Outlook: Overall, however, we do see the clear potential of digitisation in times of increased resource conservation (provision and maintenance of lecture halls with low occupancy rates, especially during the semester breaks) with regard to the physical basis on the one hand, but also the increased demands for flexibility in social areas (adaptation to individual life-long needs such as the challenges of childcare, care of relatives, (part-time) jobs, long commuting distances etc.) on the other hand, as well as the associated increase in competence in dealing with digitisation and independent, self-reliant work. In particular, the extremely positive feedback from the higher semesters is an incentive to continue working on digitisation opportunities and innovations in teaching.

## Impacted learning results

Knowledge, skills, responsibility, autonomy

## Language

The case could in principle easily be internationalised, but would require additional staff, low technical performance of the learning platform.

## Virtual mobility

The format could be transferred into a Virtual Mobility Format with a certain amount of additional staff; access to the learning platform by people outside the university with an EKUT ID would be basic but feasible.

However, the greater hurdle is the technical performance of the learning platform, which can hardly cope with the transfer of large amounts of

data, as is necessary for online lectures, video conferences etc.

## Opportunity to train others

It is primarily a technical problem in terms of implementing rather than an educational / pedagogical one.

## Contact

- › Olaf Kühne:  
[olaf.kuehne@uni-tuebingen.de](mailto:olaf.kuehne@uni-tuebingen.de)
- › Corinna Jenal:  
[corinna.jenal@uni-tuebingen.de](mailto:corinna.jenal@uni-tuebingen.de)

## 5.8.5. Videos of lecture experiments

### 🏠 Faculty / domain

MNF / Physics | Physics courses for natural scientists

### 📄 Brief description

The experimental physics lecture for natural scientists presents experiments in order to envisage the contents. They are one of the highlights of the lecture. However, it is not always possible for all students to participate. Thus, we have made videos of these experiments that are now available online via the YouTube channel of the university. These videos are presently (summer semester 2020) used in online teaching at the University of Tübingen. They can, in principle, be also used in courses beyond the university of Tübingen.

### 🕒 Impacted learning results

Observing experiments makes the theoretical concepts that are explained in the lecture more credible.

### 🗣️ Language

The videos are presently in German. They could be easily translated also into English by recording a new audio track. The videos are freely available.

### 📺 Virtual mobility

The videos can be used also in physics lectures from other universities.

### 🔄 Opportunity to train others

Not applicable

### ✉️ Contact

› Sebastian Slama:  
[sebastian.slama@uni-tuebingen.de](mailto:sebastian.slama@uni-tuebingen.de)





## 5.8.6. Physics hour

### 🏠 Faculty / domain

MNF / Physics / Physics courses for natural scientists

### 📄 Brief description

The physics hour trains students in solving physics problems and prepares them for the physics exam they have to take. In the actual physics hour, the professor provides the problems, and the students are given a limited time on the order of two or three minutes to find the correct solution and upload their answer via a voting system (clickers) to the professor. The results are statistically evaluated and presented anonymously to the participants. For the professor, the outcome is a signature, if the students have understood the subject, and if the difficulty of the problem was adequate. The students themselves see, if they did it right or wrong, and how all other students performed on average. After the presentation of the result, the professor presents the correct solution to the problem and answers questions that are raised by the students. Thus, a number of typically ten problems can be presented in a class of 45 minutes. The physics hour is a big success, as about two hundred students per week participate, although it is not a compulsory course.

### 🕒 Impacted learning results

The students learn how to solve problems under time pressure and get a repetition of the physics contents.

### 🚩 Language

The course can, in principle, be held also in English.

### 📺 Virtual mobility

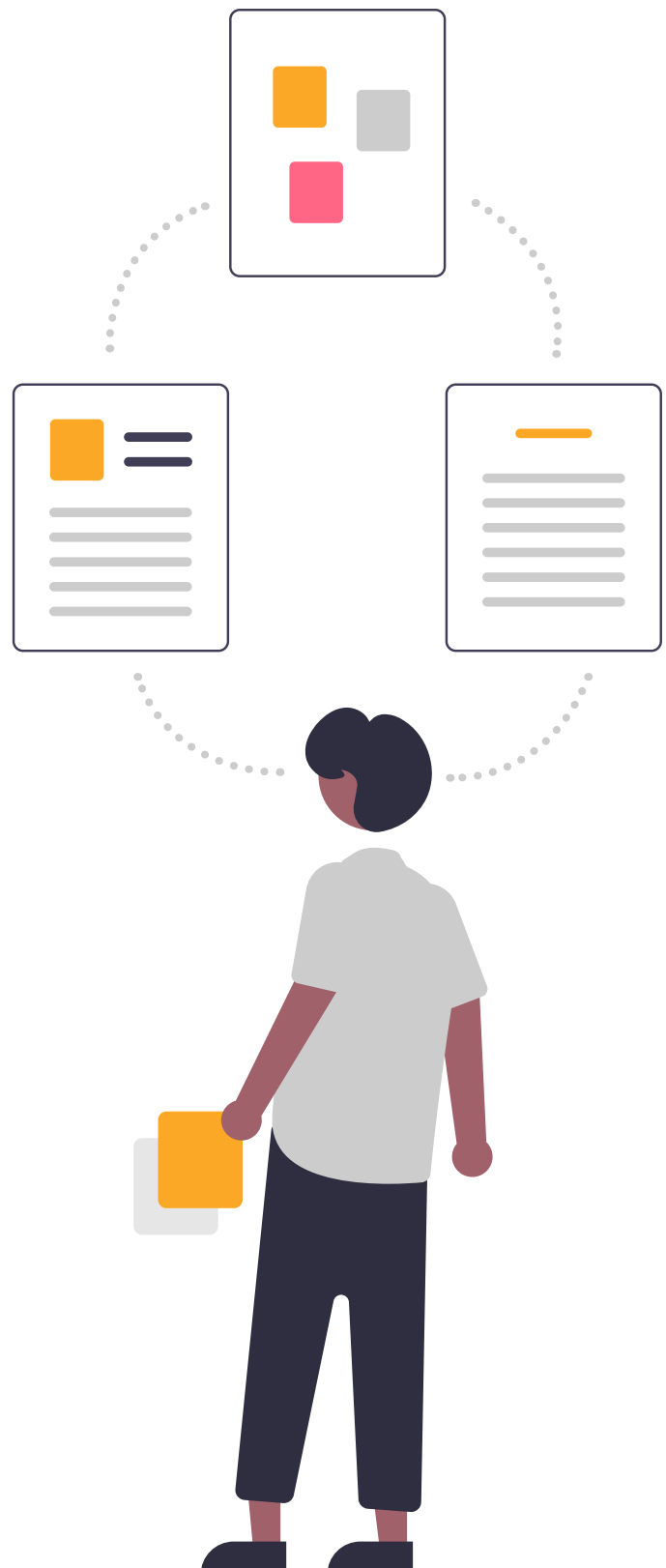
In summer semester 2020 the physics hour is held online via Zoom. The clickers are replaced by the poll feature of Zoom. This concept can in principle be also used to include students and/or professors from other universities.

### 🔄 Opportunity to train others

Not applicable

### ✉ Contact

> Sebastian Slama:  
[sebastian.slama@uni-tuebingen.de](mailto:sebastian.slama@uni-tuebingen.de)



## 5.8.7. Collaborative seminar “Conflict Analysis” – Inverted classroom, synchronic and diachronic teaching, participatory learning environment

### Faculty / domain

Faculty of Social and Economic Sciences /  
Political Science | Education | Peace Research and  
International Relations

### Brief description

- › Academic focus on Peace and Conflicts Studies, conflict analysis (including theories and methods) of a specific case (e.g. Yemen); former seminars focused on Security Migration Nexus, ISIS, Development
- › Collaboration of lecturers from six universities in Germany
- › On- and offline session: joint sessions online with around 120 students
- › Participation of international experts who provide video lectures in advance, discussion during the joint online sessions with the experts
- › Students produce a variety of documents (learning materials), e.g. glossary entries, podcasts, fact sheets and videos which are distributed on an open-education-resources platform
- › Regular evaluation (5th season of the seminar)

### Impacted learning results

- › Students know how to analyse a conflict
- › Students know the main causes, drivers, and dynamics of a specific conflict
- › Students are able to theorize and apply methods to a specific conflict
- › Students can reflect and evaluate the conditions for conflict transformation
- › Students know how to use different media and how to present knowledge to a broader public
- › Students know how to digitally collaborate over distance with lectures and fellow students from other universities
- › Lecturers know how to create a productive learning environment across universities

- › Lecturers know how to implement digital learning tools

### Language

Teaching language is German at the moment; however, a variety of videos and additional learning resources are available in English. Videos, for example, can be viewed by everyone who registers for the OER-platform. Link: <https://wb-iliad.uni-freiburg.de/iliad.php?baseClass=ilRepositoryGUI>. Seminar could be held in English as well

### Virtual mobility

During the ongoing semester, students and staff might be invited to participate in one of the English-speaking sessions with international experts. The seminar runs via Zoom. Access code is necessary.

### Opportunity to train others

We could offer a webinar for academic staff who is interested in learning more about the seminar concept.

### Contact

- › Gabi Schlag:  
[gabi.schlag@uni-tuebingen.de](mailto:gabi.schlag@uni-tuebingen.de)

## 5.8.8. Service Learning – Digital Guide for Immigrants in Tübingen

### Faculty / domain

Career Service – Studium Professionale

### Brief description

Combining academic learning and practical expertise, teachers, students, and societal partners work together on an equal basis to meet an actual societal demand. By doing so, the students will not only academically learn about a societal issue of significance, which does affect them or other local inhabitants, but they will also deal with the challenge in a hands-on fashion. The students will practically work on solutions to overcome the existing demand in a professional, yet open framework to identify their own responsibility and academic self-efficacy. As for the teachers, this seminar format offers the possibility to try out new methods of conveying knowledge, to make the relevance of one's own research visible to society and to cooperate with external partners. On the societal institutions' side, the benefits are clearly in obtaining external support, access to academic expertise and in the creativity and support by the students.

This seminar aims to develop a mobile guide for immigrants to help them find necessary institutions in and around Tübingen area, such as authorities, counselling services, or shops for the daily necessities. The cooperation partner is the district administration of Tübingen. In an earlier seminar, a multilingual map of Tübingen city was already been created and published. By using sustainably, the already made basis, the upcoming seminar is about to develop a mobile guide in order to widen the accessibility of the information.

In a first step, the students familiarize themselves with concepts and goals of communal social and integration policy as well as with social rights and challenges of EU citizens. More specifically, in the first session, students will be introduced to the municipal social policy / integration policy. The second session is dedicated to the development and update of the existing primary app and the

formation of working groups. In the following session, the seminar sets the basis for further critical reflection on social justice issues by introducing social rights and problems of Union citizens to the students. An ensuing working phase will follow the first three sessions, where students will be split up into groups, which will then work together with professional partners on an academically informed mobile application. During the fourth out of the six intensive sessions, intermediate results will be discussed, and emerged challenges will be reflected upon. Finally, the application will be pre-tested, and the results of the different working groups be brought together.

The seminar's innovation relies partly on the combination of academic knowledge and societal partner institutions with modern technology. However, the innovation is the focus on societal issues along with the special conduct between the participants. The objective is to work on an academically informed solution of a tangible challenge in society in a way that welcomes multidimensional perspectives and encourages all actors to work together on an equal basis. It thereby furthers the awareness for social justice on a global scale.

The Studium Professionale department conducted a qualitative evaluation of disciplinary Service-Learning seminars from 2017 to 2019. Among others, the study showed, that the students and teachers noted an increase in transferable skills, such as self-efficacy, societal responsibility, and critical reflection of their own work. Furthermore, all societal partner institutions emphasized the benefits gained from the external perspectives contributed and student's creativity.

### Impacted learning results

- › Basic knowledge of communal social policy
- › Basic knowledge of social rights of EU citizens
- › Autonomous research abilities
- › Teamwork
- › Structuring and prioritizing information
- › Cooperation with external representatives, such as authorities and associations
- › Conduction of a pre-test
- › Role change
- › Self-efficacy

- › Social / societal responsibility
- › Critical reflection

## 📖 Language

- › Working together with other partner universities or partners
- › Providing of multilingual literature for research and gaining of knowledge.
- › The guide will be developed in different languages (Arabic, Central Asian languages...)
- › Working together with international application developers (Integrate)
- › This seminar can easily be conducted in English

### Possibilities for internationalization:

- › Expand available partnerships at an international level
- › Shared online teaching sessions, e.g. basic knowledge on social policy including special aspects from each country
- › Shared open source project
- › Possibility of expansion in order to include more languages and countries

### Limits for internationalization

- › Availability of personnel coordination
- › Financial resources
- › Technical requirements for taking part

## 🖥️ Virtual mobility

Taking part in a shared project, such as the digital guide for immigrants, is made possible by a common pool of creativity and communication and especially if the actual application development is done by external partners. Therefore, virtual mobility of teachers as well as students is possible by digital means without difficulty, as long as the basic technical requirements are met, and the seminar is thoughtfully designed.

## 🔄 Opportunity to train others

The Studium Professionale Team in cooperation with the university didactics regularly offers workshops for teachers on how to conceptualize a successful Service-Learning seminar. Within these workshops, fellow academics are being trained in setting up the framework for such events and how to meet the participative requirements of the format. They are also made to consider hurdles and setbacks and how to deal with these.

Furthermore, the translation of existing brochures and leaflets on how to conduct Service-Learning seminars in order to provide more information for an English, Greek, Spanish or Italian speaking audience also online.

## ✉️ Contact

- › Iris-Niki Nikolopoulos:  
[iris-niki.nikolopoulos@uni-tuebingen.de](mailto:iris-niki.nikolopoulos@uni-tuebingen.de)



## 5.8.9. Service Learning – FAIRstrickt: Online Communication for Fair Fashion

### Faculty / domain

Career Service – Studium Professionale

### Brief description

Following the idea of sustainable development, the purpose of this seminar is to develop a blog concept, in order to save knowledge and resources in the long term and to carry out public relations work for the FAIRstrickt network and implement media contributions. The FAIRstrickt network came into realization when a wide range of educational partners on the subject of "sustainable textiles" teamed up. It carried out its first successful campaigns in Tübingen and the surrounding area in 2019 and drew attention to fair fashion and fair procurement. In 2020, offers and promotions are to take place throughout the year. The blog concepts and media contributions are therefore aiming to serve part of its future steps and to raise global awareness in the fashion industry.

The seminar is suitable for students of all disciplines who wish to learn how to prepare content for the web, who work in a media-practical manner and who want to get a taste of public relations. Previous media knowledge is not required, but an independent way of working is required to research and write your own contributions between the seminar sessions. Furthermore, a beforehand interest in communication, public relations and in writing is expected.

Participants would work on the development of theoretical and conceptual knowledge about the medium of blog and writing skills for web text types. They would also get acquainted with the editorial work and on research skills, as well as interviewing and media production technics.

In addition to the above-mentioned skills, they would get to know what Service Learning is, while they will participate in joint seminar and editorial meetings. Students are free to choose to work in between independent projects and / or small groups.

By the end of the seminar sessions, participants are expected to have experience in the creation

of a blog concept, their own blog posts, and an improvement on written reflection.

What makes this seminar unique is, on the one hand, the combination of many different skills and disciplines into one seminar, such as public relations, practical knowledge on web-development and theoretical knowledge on textiles and fashion. On the other hand, the acknowledgement of the social impact it produces on local and global scale. Participants would have to opportunity to engage themselves with a variety of disciplines, which sometimes seem not to be related and easily associated together one another.

The seminar is part of a program in cooperation with the FAIRstrickt network. Therefore, it is conducted in close collaboration with two other seminars on social justice and human rights. Together, they are meant to raise the students' global awareness and to empower them to make their voices heard in a sustainable fashion. There will be a joint start on May 4, 2020.

As part of the Service Learning the seminar focuses on societal needs as the main target along with the special conduct between the participants. The objective is to work on an academically informed solution of a tangible challenge in society in a way, that welcomes multidimensional perspectives and encourages all actors to work together on an equal basis.

### Impacted learning results

- › Autonomous research abilities
- › Teamwork
- › Structuring and prioritizing information
- › Role change
- › Self-efficacy
- › Social / societal responsibility
- › Critical reflection
- › Public relation skills
- › Web development
- › Writing skills

## 🗣️ Language

- › Working together with other partner universities or internal and external partners
- › Providing of multilinguistic literature for research and gaining of knowledge.
- › This seminar is easily conducted in English

### **Possibilities for internationalization**

- › Part of this seminar is the general knowledge and spread of the FAIRstrickt network. The creation of a multilinguistic blog content that adheres to more nationalities is of the essence.
- › Possibility of expansion in order to include more language, international initiatives, and countries
- › Shared open source project

### **Limits for internationalization**

- › Personal and (by that) financial effort to run the entire coordination
- › Technical requirements for taking part

## 💻 Virtual mobility

Students and academic staff are expected to communicate with external partners in order to gain insights in other educational and non-educational fields. The purpose of the seminar is to create open access knowledge to the general audience, for this reason more perspectives should be considered. Therefore, virtual mobility of teachers as well as students is possible without difficulty, as long as the basic technical requirements are met, and the seminar is thoughtfully designed.

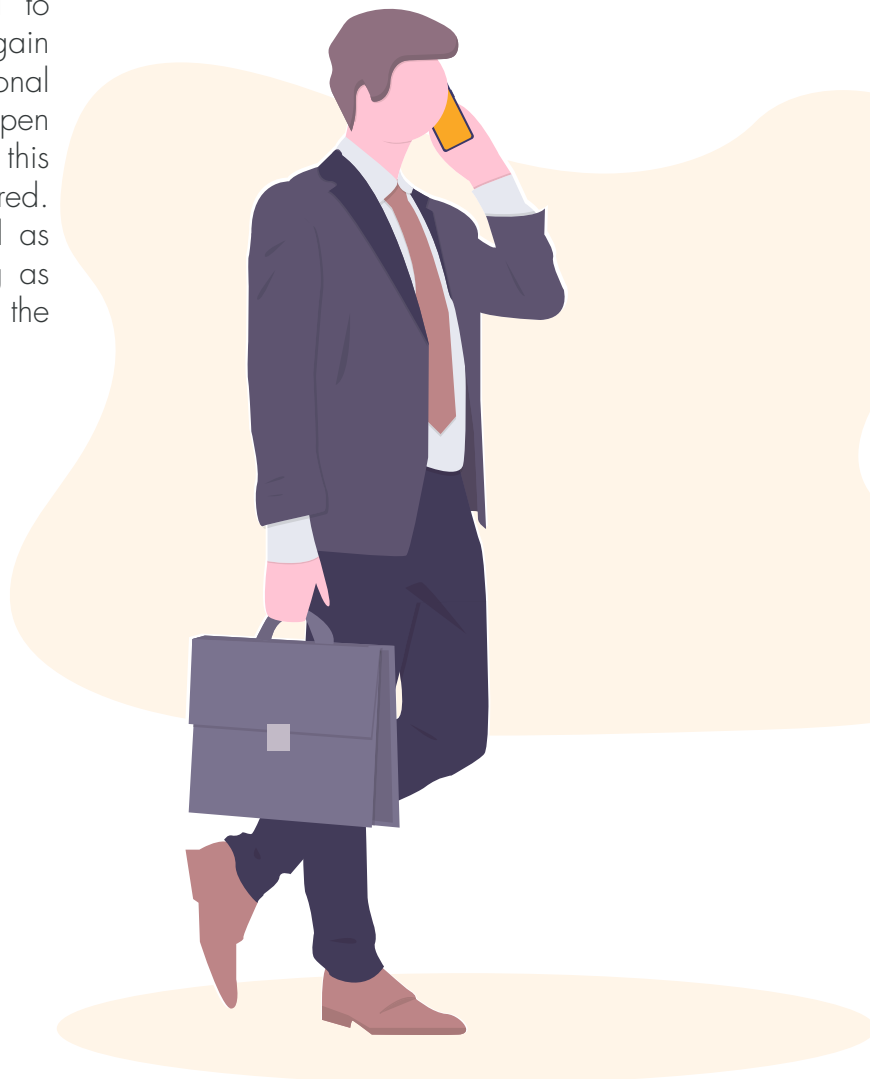
## 🔄 Opportunity to train others

The Studium Professionale Team in cooperation with the university didactics regularly offers workshops for teachers on how to conceptualize a successful Service-Learning seminar. Within these workshops, fellow academics are being trained in setting up the framework for such events and how to meet the participative requirements of the format. They are also made to consider hurdles and setbacks and how to deal with these.

Furthermore, the translation of existing brochures and leaflets on how to conduct Service-Learning seminars in order to provide more information for an English, Greek, Spanish or Italian speaking audience also online.

## ✉️ Contact

- › Iris-Niki Nikolopoulos:  
[iris-niki.nikolopoulos@uni-tuebingen.de](mailto:iris-niki.nikolopoulos@uni-tuebingen.de)



## 5.8.9. Creating science comics with students

### Faculty / domain

Faculty of Economy and Social Sciences

### Brief description

#### **Type of activities**

Collaborative writing with students and development of an innovative publication format.

#### **Methodology**

Students' course assessment writing samples form part of a webcomic that aims at making the seminary topic available, understandable, and interesting for other students and a broader public.

#### **What makes the example innovative?**

Science communication with comics is underdeveloped in (German speaking) academia. Our aim is to develop reading and writing formats that gain attention of young people and readers with changed reading habits.

#### **Any evidences that it works?**

Students who participated are enthusiastic, the comic itself is a work in progress. [A YouTube video](#) documenting the making of the comic has been prepared.

### Impacted learning results

Focus on main findings from a seminar that might be interesting for a broader public and bring them into a narrative form that is suited for a broader public.

### Language

Translation of the comic in English is planned

### Virtual mobility

The comic is planned as a webcomic with a range of digital distribution formats.

### Opportunity to train others

It could be possible to develop a module on storytelling in order to create opportunities for colleagues for transforming their topics into narrative formats (in cooperation with writing centres).

### Contact

> Ursula Offenberger:  
[ursula.offenberger@uni-tuebingen.de](mailto:ursula.offenberger@uni-tuebingen.de)

# A LOOK INTO THE FUTURE: CIVIS Lab on Innovative Pedagogies

As already mentioned in chapter 4, pedagogical innovation is a continuous matter of concern and a key development area for higher education teaching and learning in the future. This is why we are in the process of setting up a **CIVIS Innovative Pedagogies Lab**, based (as coordination location) at the University of Bucharest, but actually being a network of research, expertise and professional development centres from all eight HE institutions in CIVIS.

**The Innovative Pedagogies Lab** will follow up the activities of the Task Force on Innovative Pedagogies articulated in the CIVIS Project, ensuring sustainability, but will also consolidate a mission to **become a reference point for innovating teaching and learning in higher education** in Europe and beyond, by:

- › Engaging in scientific research on pedagogical innovation in higher education, producing relevant publications on the topic;
- › Creating, expanding, and maintaining a database of innovative pedagogies in CIVIS, serving as inspiration for academics across the world and stimulating collaboration on learning transformations;
- › Designing and delivering workshops, conferences, trainings, and other professional development programs / activities to create competence and stimulate innovation in HE teaching and learning;
- › Initiate and implement research and development projects on all of the above;
- › Consolidate a professional network of “innovative pedagogies champions”.

The Innovative Pedagogies Lab, a network of professionals with eight “nodes”, will try to contribute to making CIVIS the most attractive European University, from the perspective of innovative learning eco-system, both for students and academics.



# ACKNOWLEDGMENTS

As mentioned on the front page, all examples of innovative pedagogies have their authors mentioned in the description.

Classification, collection and editing of the innovative pedagogies was made by the members of the Task Force Innovative Pedagogies:



**Aix-Marseille Université** (France)  
Aurélie Peyrin | Gabrielle Regula



**Universidad Autónoma de Madrid** (Spain)  
Nadia Fernández de Pinedo



**National and Kapodistrian University of Athens** (Greece)  
Iro Mylonakou-Keke



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Emiliane Rubat du Mérac | Giulietta Capacchione | Tiziana Pascucci | Alessandro Torti



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Lucian Ciolan | Romiță Iucu | Anca Nedelcu | Alexandru Carțiș



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Ulf Olsson



**Université Libre de Bruxelles** (Belgium)  
Eric Uttebrouck



**Eberhard Karls Universität Tübingen** (Germany)  
Lucia Vennarini | Andrea Fausel

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