Innovating Teaching and Learning of European Studies (INOTLES)

EU TEMPUS project
Training the Trainers Handbook

INOTLES Handbook

Introduction
INOTLES project

The present training book represents one of the major deliverables of the project Innovating Teaching and Learning of European Studies (INOTLES), running between January 2014 and November 2016. INOTLES contributes to curricular reform and modernisation of higher education in Georgia, Moldova and Ukraine, by implementing innovative pedagogies in European Studies courses at MA level, which potentially may serve as a model to the higher education community more generally. Building on a systematic review of pedagogies in European Studies, INOTLES brings together Eastern partners with EU university centres of excellence in assorted approaches (including e-learning, problem-based learning and simulations) to create flexible resources for use in the full range of European Studies provision. Moreover, the training and teaching resources form the basis for an online interactive website and wiki, open to all, where the work of a new community of experts created by INOTLES can share expertise with peers elsewhere.

INOTLES Training the trainers

The interdisciplinary or multidisciplinary character of the field of European Studies and its increased openness to both traditional students and non-traditional groups, i.e. professionals, require a mix of pedagogical approaches and the use of innovative tools in order to address the academic needs as well as job market demands. In this context, INOTLES targets at training academic and IT staff involved in teaching ES across its partner universities (Work package 3 'Training the trainers,' June 2014 - January 2015) based on a cooperative approach, building on partners'

practice and encouraging group learning in innovative teaching methods and tools that would tackle the major challenges across the field of ES.

The focus of the training is on identifying the specific fields of knowledge and expertise that the partner institutions require, job market demands, as well as exploring the appropriate balance between knowledge and skill transfer to learners.

The training combines face-to-face and online interaction and exchange of practices. Selected trainers from PC and EU institutions were brought to Brussels for face-to-face training in June 2014, where the EU partners experts enabled them to experience different pedagogies at first-hand by sharing their teaching expertise in innovative methods, such as problem-based learning, blended and e-learning, and simulations. The face-to-face training was followed by online group collaboration to develop conceptual understanding of pedagogical approaches (July-December 2014). The training concluded with a face-to-face meeting in Georgia in January 2015, reporting the lessons learnt, exploring opportunities and challenges for practical implementation of the innovative methods within partner institutions, as well as disseminating its results to a broader national and international audience.

The trained staff from PC universities is expected to disseminate the gained knowledge and skills within their universities. The national Centers of European Studies in Georgia, Moldova, and Ukraine will offer at least one in-house training in teaching ES by the end of 2016.

Aim of the Handbook

The handbook compiles the material of INOTLES face-to-face and online training and advances the following objectives:

- Delivering general knowledge on the use of active learning pedagogical methods, particularly problem-based learning (PBL), simulations, e-learning and blended learning;
- Suggesting practical tips for trainers and instructors ('how to' tips for the specific methods);
- Offering examples of the methods applied in teaching and in training the trainers in the ES field;
- Providing a depository of resources to be used regarding the specified innovative teaching methods;
- Advancing a glossary of the main concepts and terms regarding active learning and innovative pedagogical methods and tools.

Handbook structure and How to use the handbook

The handbook is split into the four different learning strategies; problem-based learning (PBL), simulations, e-learning and blended learning. Each learning strategy is described and advice for advantages and challenges that can be found.

The handbook allows its users to set the pace of their learning process as well as the depth to which they go in relation to each method. The basic information can be

found in the main text, while the Useful Toolkit Resources and activities are aimed at providing a better insight into the various pedagogical nuances involved. They also offer the chance to reflect on and practice some of the things learned throughout the chapters.

This handbook aims to offer support both for professors who want to learn more about active learning methods by themselves and for trainers (possibly professors themselves) training colleagues on the use of these methods.

The activities proposed can be undertaken individually, together with a few peers or in a more formal training group. In case of a group training, the trainer decides which resources to use out the ones listed in the handbook. Individual learners can make their own selection of suggested readings.

Questions to reflect on before starting – What are your expectations?:

- ☐ Why did you enrol for this training?

- ☐ What do you know or have you heard about active learning pedagogy?

- ☐ Did you ever use any form of active learning? (200-400 words) met all the objectives, that wasn't a simulation, i.e. is it worth doing it at all?

- ▷ If yes, how do you evaluate this experience (maybe illustrate on one example the advantages and disadvantages that you encountered)? What expectations towards active learning pedagogy do you have in regard of your own teaching? What challenges what to tackle? What do you want to achieve?

- ▷ If no, what expectations do you have towards active learning in regard of your own teaching? What challenges what to tackle? What do you want to achieve?

- ☐ Please specify 3 aims that you want to achieve with this training?

Problem Based Learning

Description of the method

Problem Based Learning (PBL) emphasises the interactive and comprehensive nature of learning. As a pedagogical approach, PBL was first developed in medical studies in the late 1960s and follows the underlying constructivist rationale that knowledge is context-dependent and should be constructed; instead of 'just' transferring knowledge passively from professor to student in a lecture, students in a PBL setting are *actively* involved in constructing knowledge.

In a PBL environment, students are confronted with a certain trigger (the "task", "problem" or "assignment"), which has been designed by the academic staff member responsible for the course content ("coordinator"). The assignment presents a certain puzzle, and students work on problems together with their peers in small groups ("tutorials") and under the guidance of an academic staff member ("tutor"). Lecturing is just used complementary.

PBL is said to lead to "deep learning" and to train important team work skills because of its collaborate setting. At the same time, the PBL setting puts special emphasis on learning strategies ("learning how to learn"). Over time, learners are meant to train their way of reflecting on the success and shortcomings of their own learning processes, what in the long term will lead them to become independent learners.

Learning objectives – how to use this handbook chapter

The aim of this handbook is to provide academic staff with a general idea what problem based learning is about and how it can be used.

The training handbook is build up in the following manner:

1. Increase basic understanding for active learning principles and background knowledge about PBL

2. Understand the different role of staff and students in a PBL environment

3. Understand the basic ideas of assignment design

4. How to use the method in practice – the 7steps to support students active inquiry and the salient role of feedback

5. Final Reflection on possible scenarios that can facilitate or hamper PBL learning

At the end of this training, group members will have experience of both applying and designing Problem Based Learning materials, with wider background and specific ideas for local implementation. The individual chapters provide a short introduction, and conclude with specific tasks that colleagues can engage in in order to learn more about PBL.

Understanding the logic of PBL

PBL is based on three core principles for successful and comprehensive learning: 1) Learning should be learner-centred, 2) follow an active process of knowledge construction, and 3) be collaborative.

PBL is learner-centred

PBL is often superficially portrayed as little more than small-group teaching. And indeed, PBL as an interactive learning activity works best in groups of around twelve students (but it can also be used in bigger classes, for which it then becomes closer to the idea of the flipped classroom). Thus, it is not only the size but also rather the quality of interaction within this small group that makes the PBL experience different.

First, in PBL, learners themselves (and not the professors) are the ones identifying the *learning objectives and learning goals*. It is assumed that "deep" learning occurs when we have the possibility to define our own learning goals, also because we then grasp the relevance of and give meaning to our specific approach to the topic. Learners (not the instructors) identify the respective questions of the respective PBL cycle based on prior knowledge, interest and relevance identified by the tutorial group. The coordinator defines topics and designs assignments that trigger interest, but the tutorial group in a consensus-seeking process defines the precise learning objectives for each session (as they are the ones who know what they know for sure, are able to define assumptions to be tested etc). Involving learners before the start of the learning activity makes PBL differ considerably from other forms of active learning, in which students, for example, are asked to be in charge of implementing a task given by the instructor (e.g., preparing a presentation about some topic). In a PBL setting, students are not only active in implementing the given task, but during the pre-discussion they actively define their exact approach to the assignment. This set-up supports deep learning because learners are able to research what they are specifically interested in; learners define the relevance of and give meaning to the identified puzzle; and learners link the new topic to existing knowledge and familiar interpretations (Glaser 1991, pp. 132–3). Additionally, in discussing possible learning objectives, the group members exchange individually existing knowledge. According to neurological research, this favours deep learning again as new information is linked to previously acquired and familiar knowledge.
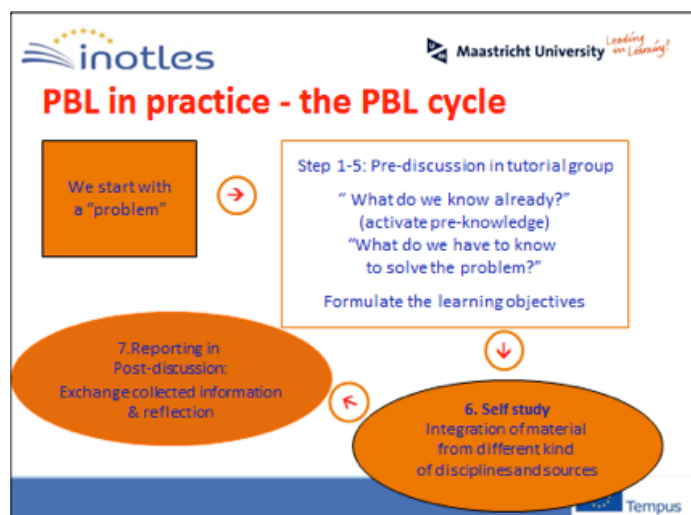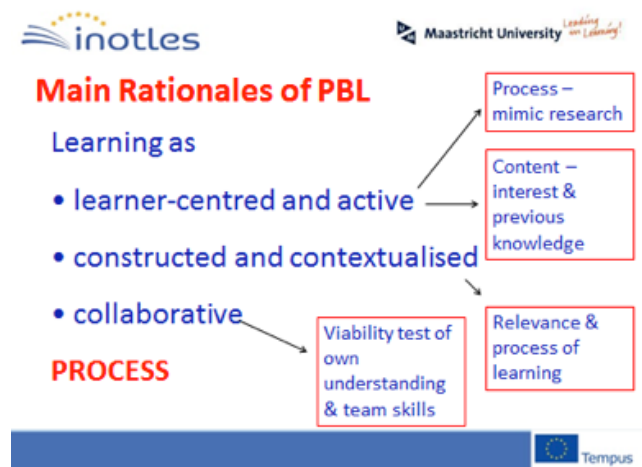
Secondly, in PBL, learners are not only central in defining the content of learning, but they also actively shape the process of learning. Students are dynamically in charge of their learning process by fulfilling the roles of chair, secretary (or whiteboard worker) and active participants during the tutorials. In the most ideal case, students run the tutorials themselves, without any intervention of the tutor: the student 'chair' runs the meeting, moderates the discussion, and ensures an efficient and engaging exchange between group members. The 'secretary' takes minutes and supports the group discussion by visualising and making notes on the whiteboard. Yet, it is the responsibility of all group members to participate actively and make their meeting work.

By engaging in this learning process, learners mimic every time a small-scale research process: from identifying the questions, engaging with the literature, looking for empirical evidence, formulating arguments, to presenting individual research findings to colleagues in subsequent meetings. Next to the interactive element in the small-group setting, the ample scheduled self-study time plays a major role in a PBL environment. Students need to extensively engage with the defined learning goals individually before then comparing and contrasting their research findings during the post-discussion. A large part of the work during the learning process therefore takes place outside of the classroom during the self-study. The pre- and post-discussions are possibilities for checking one's own understanding and deliberating among members of the team. At the end of the PBL cycle after each post-discussion, it is highly recommended to integrate a reflection moment, during which the group assesses its learning process, discusses shortcomings and agrees on potential adaptations for the next learning cycle.

In the most ideal case, students run the tutorials themselves, without any intervention of the tutor. By engaging in this learning process, learners mimic every time a small-scale *research process:* from identifying the questions, engaging with the literature, looking for empirical material (evidence), formulating arguments, to presenting individual research findings to colleagues in the next meeting. At the same time, a central element of a PBL environment is ample scheduled *self-study time.* Students´ preparations should be extensive and allow the learner to engage with the defined learning goals individually, before then comparing and contrasting the research findings in the group. You will experience that therefore a large part of the work during the learning process takes place outside of the classroom during the self-study.

PBL is a problem-based process of knowledge construction

A central element of PBL is that students do not just passively receive knowledge from the instructor, but instead they are actively involved in constructing knowledge. Two reasons identified by pedagogical research make active learning more favourable than passive knowledge transfer.

First, learning is treated as 'sense-making activity'. Students do not just grab what is identified as knowledge by academic authority and memorise it, but they give meaning to facts and construct knowledge to solve a puzzle. Knowledge is thus not an abstract and objective aim for knowledge's sake, but factual knowledge becomes an instrument required to solve a task. This rationale of PBL relates smoothly to Bloom's taxonomy about different levels of educational objectives, which starts from

the idea of knowledge transfer before building up to more complex objectives, including comprehension, application, analysis, synthesis and evaluation.

Secondly, knowledge is context dependent, and learning needs to be contextualised as well. Assignments and PBL tasks often ask students to apply academic knowledge to practical ('real-world') situations. By doing so, learners establish relevance for their research steps before consulting the suggested material. More importantly, this setting helps learners to understand what the gained knowledge is applicable for. Consequently, learning in a PBL setting is ideally situating knowledge construction in contexts where academic knowledge can be used and applied.

This idea of learning being actively constructed by the learners also strongly shapes the role of the tutor, who is not responsible anymore to transfer knowledge in the traditional sense ("to teach", but facilitates students in developing and improving their self-directed learning skills ("facilitate to learn"). This is well in line with the emphasis on the learning process within PBL, where it is not predominantly about "what is learnt" but "how it is learnt".

The logic behind active knowledge construction is that when learners establish the relevance of certain questions before they look for information to solve the puzzles, they do not just memorise but they understand. Learning in a context provides relevance, and helps the learner to understand what the gained knowledge is applicable for.

Useful Toolkit Resources:

- ☐ Moust, Jos, Bouhuijs, Peter, and Schimdt, Henk (2007): Features of problem-based learning: An introduction. In Introduction to problem-based learning. A guide for students. Nordhoff Uitgevers, pp. 9-17, 53-56;

- ☐ Gijselaers, Wim (1996): Connecting Problem-Based Practices with Educational Theory. In Wilkerson, LuAnn and Gijselaers, Wim (eds). Bringing Problem-Based Learning to Higher Education: Theory and Practice. pp. 3-12

- ☐ Maurer, Heidi, and Neuhold, Christine (2012). Problems Everywhere? Strenghts and Challenges of a Problem-Based Learning Approach in European Studies. Paper presented at HEA Conference, May 2012 in Liverpool. Accessible at http://tinyurl.com/problemseverywhere

- ☐ "Tutorial Group 2013": An explanation of the seven PBL steps as used at the Faculty of Arts and Social Sciences (FASoS) at Maastricht University: http://tinyurl.com/sevenpblsteps

- ☐ PBL Workshop during INOTLES June 2014 meeting in Brussels: https://www.youtube.com/watch?v=xW1efcfSKtE

PBL is collaborative learning

Last but not least important, PBL depends on integrated and collaborative learning within the tutorial group. Through this collaborative learning exercise learners train and increase their ability to judge information provided by others, relate findings of others to their own learning success, and critically assess compatibility or conflicting judgment.

Within the post-discussion meetings tutorial members elaborate on the information that they collected, discuss with peers and exchange views and arguments. Additionally, learners are not only confronted with different perceptions and argumentation, but in the discussion of the researched and read materials, acquired knowledge often has to be re-formulated in own words when presented. Repeating this learnt knowledge helps again to memorise and retain information.

Additionally, learners become socialised to work in a group, train their communication and team working skills. While that is certainly a challenge at the start with PBL, one gets easily used to reflecting on group dynamics or to overcoming challenges in miscommunication or dysfunctional group behaviour.

Task: "What does the literature tell us about PBL?"

Workbook Activity No1.

The aim of this task is to understand and reflect on the principles of Problem Based Learning. Work through the literature below (and the other sources) so that in a next step you can reflect on your newly gained knowledge by answering the following questions: Click here for TEMPUS Workbook Activity Link

Role of the Teacher

Adapting to new roles: students as active learners, teachers as facilitators

Most of us even today—in the century of the information society—are still trained to follow the traditional way of teaching and learning: the teacher stands in front and tells the students what to learn and how to learn it. Getting suddenly acquainted to active and independent learning with 10–15 group members in an effective and pleasant manner does not just not happen by itself: it requires an adjustment period, training, repeated reflections and adjustments. Involved actors, therefore, need to adapt to their new roles in a PBL environment. This adaptation process is best facilitated by raising awareness and training exercises but most importantly by constant reflection opportunities.

New staff should receive an introductory training that familiarises them with the underlying logic of Problem-Based Learning. More than just this introduction, however, staff should experience PBL, for example by mimicking a PBL assignment process. For a sustainable exchange about PBL teaching experiences, voluntary workshops throughout the teaching period or other activities can be a useful means to raise awareness for the distinct aspects of teaching and learning in a PBL environment. Additionally, it can be helpful to provide group facilitation techniques and materials.

Academic staff members have to learn to switch from the idea of an intervening and controlling lecturer into the role of a questioning and guiding facilitator. Tutors have to internalise the idea that it is not about 'teaching' as in 'lecturing' but that it is about 'learning'. As such, the tutor's task is not primarily to contribute content expertise, but instead to facilitate group learning processes, group interaction and skills development.

Instead of lecturing, the academic staff member helps the group by asking questions, guiding, supporting the chair in synthesising the discussion etc.

Useful facilitation strategies are to ask open-ended questions, push for explanations, help students to sum up and re-voice what was said or encourage students to generate hypotheses instead of just presenting empirical data (for an interesting overview of facilitation techniques that tutors can use in a PBL setting, see Barrows as referred to in McCaughan 2013, p. 14; Hmelo-Silver and Barrows 2006, pp. 21–32). The most difficult task of a facilitator is to judge when to intervene and how. The tutor should not immediately step in when the group goes off track or is misunderstanding an argument. Experienced tutors develop a good feeling for when to allow the group to attempt to find the right track or when it is necessary to step in to ensure that students do not go home with a wrong perception of knowledge in mind. Even more so, the way of intervening should be as subtle and as minimally invasive as possible to ensure that attention is not on the tutor (as expert) but goes back to the group effort of explaining and understanding a certain topic.

It is crucial to spend some time and effort at the beginning of each new course to get to know the group members and to engage in some group-building exercises can facilitate the working mode of tutorials groups. PBL materials can, for example, highlight positive and distorting behaviours of group members in a tutorial meeting. In addition, tutors need to be aware of the role-modelling effect that is often observed in PBL environments. Because of the close interaction between tutor and learners, non-verbal behaviour of the tutor is observed, picked up and mimicked by learners. This can be used as a helpful tool,

for example when the tutor for newcomers to PBL performs the task as chair or secretary so that learners have an example to start with and then can adapt those roles according to their own ideas. Yet, it also means that facilitators have to adhere to formal and informal group rules as well. If the group, for example, decided to sanction distracting or inappropriate behaviour (e.g., coming late, ringing of mobile phone or hiding behind a laptop screen etc.), a facilitator would need to follow the same rules.

Students also have to adapt to their new role in an active learning environment, especially if they are already socialised to a more traditional lecture-based environment. Before students even join a PBL activity, they should be made aware of this different learning approach: they have to work more independently in the self-study, they have to be actively involved in their tutorial groups and they must work closely with other group members.

Useful Toolkit Resources:

☐ Click here to see Table 1: Seven-steps of PBL and their underlying logics

The 7-steps as guide for students

Each tutorial meeting is thereby divided into two parts: The tutorial session starts with the post-discussion of the assignment that students prepared in their self-study before the tutorial. After a short break the pre-discussion of the next assignment follows that students prepare until the next tutorial meeting. Ideally both parts together should take a bit less than two hours.

In addition, in order to help students ease into the way of working actively in a group, Maastricht University developed the seven-step approach (often also called 'seven-jump') to facilitate and structure students' learning processes within the PBL framework, especially during the pre-discussion. In order to familiarise students with a process of arriving together at a few interesting and relevant learning objectives and to help students to mimic a simple research process, the seven-step approach tackles each assignment in the same manner. In the pre-discussion of an assignment, students follow the first five steps of the seven-step approach, followed by the self-study and the post-discussion (see table in the Useful Toolkit Resources above)

This pre-structured approach can support groups of students unfamiliar with PBL at the beginning, while more experienced students have internalised the way of working together towards the learning objectives quite quickly and are even able to adapt the process in their own way to make it work for the group.

Before and during the class

The successful use of PBL depends on three factors: the students as independent learners and their group dynamics; the tutor as facilitator; and assignments as suitable triggers for independent learning;

Assignments provide the starting point for the tutorial group members to engage with a specific topic before they participate in the individual research process. Assignments are meant to engage with the learner, raise curiosity, link to previous knowledge of learners and guide the group in their learning process while allowing them enough space to define the relevance and questions according to their own interests and backgrounds. Assignments need to be authentic in representing a real-life scenario. In very practical terms, they should allow the group to be able to come to a definable puzzle and a few learning objectives to guide the self-study and to allow for a post-discussion within 50–70 minutes.

Designing assignments is a creative and enjoyable task, but even the best are rarely able to write a perfect assignment right from the start. Rather, on the contrary, revisions occur over multiple years with feedback from colleagues and students helping to gradually improve assignments. It also proved useful to involve various faculty members in the process of assignment design and to provide possibilities for exchange and training on how to write assignments for different student groups.

The process of constructing an assignment combines two different aspects: the problem generation and the structuring of the problem. While the former is about the content of the task (i.e. what is the problem presented?), the latter focuses on how the problem is presented towards the learner in the assignment. Because PBL is learner centred, the design and set-up of each assignment generally needs to be adapted to the respective student body. As with many educational activities, but even more so for PBL, the assignment designer should know as much as possible about students' backgrounds and their specific knowledge and skills levels.

Follow the next three tasks to get a sense of what needs to be taken into account when designing assignment:

Task 1: Learning by doing: experience a pre-discussion yourself:
"Pre-discussion of an assignment"

In this task we are going to step in the shoes of students and work through an assignment by using the first five steps of the 7-step approach.

- [ ] Read the Assignment (See attached)

- [ ] Engage individually in the first five steps of the 7-step approach (see task here)

- [ ] Share the notes of your pre-discussion process as well as your final learning objective.

Task 2: Comparing different good and bad assignments: Comparing different assignments

- [ ] Read the Assignment (see Attached)

   ▷ Example 1a (Maastricht Treaty)

   ▷ Example 1b (European Parliament)

   ▷ Example 2a (Maastricht Treaty)

   ▷ Example 2b (European Parliament)

Task 3: What makes a good assignment?

Overall, requirements for 'good' assignments can be summarised with three main characteristics: 1) allow deliberation (instead of just description); 2) guide the tutorial group; and 3) include a certain amount of scaffolding. At the same time, successful assignments should provide space for the learners to define their own interests and establish relevance. But what else should we take into account? 4: Comparing different assignments

- [ ] Read the Assignment (See Attached)

Useful Toolkit Resources:

- [ ] Barrett, Terry, Cahsman, Diane, and Moore, Sarah (NN): Designing Problems and Triggers in Different Media. Challenging all Students. p. 18-19.

- [ ] Stanton, Marie, and McCaffreey Majelly (2011). Designing Authentic PBL Problems in Multidisciplinary Groups. In: Barrett, Terry and Moore, Sarah (eds). New Approaches to Problem-based Learning. Revitalising your Practice in Higher Education. New York/London: Routledge. Pp. 36-42.

- [ ] Dolmans, Diana, et al (1997). Seven principles of effective case design for a problem-based curriculum. Medical Teacher 19(3): 185 – 189.

- [ ] Maurer, Heidi (2014 forthcoming). Best Practices in PBL. Handbook Chapter. pp. 6-13.

The role of students and the academic staff member (tutor) are considerably different while the course is going on. Students have to be active, are in charge of making the tutorials work, and have to be prepared for their meetings to make them work. The tutor supports, guides, and helps with reflection.

The first session should be especially used to discuss with students the different set-up, expectations, tasks and other practical issues.

Overall, while group interaction and peer communication are central elements of PBL in practice, they can also clearly hamper the success of a group working together. Regular reflection moments on how to improve group and communication skills are therefore central in a PBL environment. Those can be done at the end of each post-discussion, but they should especially be used when the group process during an assignment has not worked so well or group members have suggestions for improving the group work. These reflective exercises also facilitate the development of each tutorial member as a self-directed learner and train students for future teamwork situations in the professional environment.

In the table on the next page, we summarise some common challenges that students encounter when applying the 7 steps. Generally, students at the beginning do NOT like to have too much space; Students are used to do what they are told to do, and tutors should be prepared to reinforce that students take the space that is provided to them. It is crucial that the tutor does NOT jump in and take over again, while students again fall into the role of following the learning process as suggested by the tutor.

Useful Toolkit Resources:

- [ ]

Assessment

Formal assessment in terms of grading student performance should be aligned to the course objective and the skills trained. If the course assignments were set up in a manner to train argumentation, than the assessment should also check argumentation (e.g. through an essay).

Feedback moments in terms of informal assessment are considerably different in a PBL environment, as feedback not only focuses on content-related aspects. Quite on the contrary, aspects related to the learning PROCESS and the team working process take centre stage in regular feedback moments.

Debriefing

At the end of the post-discussion, group members should also take the time to _reflect_ on the learning process of the respective assignment, e.g. the selected learning objectives and potential aspects that have not been not covered in the pre-discussion but showed to be important in the post-discussion. Also group members might want to discuss the way the group works: what worked well so far, what needs improvement; If points for improvement are identified, the group should also agree on how to tackle those shortcomings in the next assignment. This way the group is able to constantly adjust and improve its process of learning with PBL.

Practical aspects

Generally, PBL can be used flexibly. Even more so, it has to be carefully adapted to the circumstances, knowledge-level and academic skills of students. However, students will need to get used to a PBL set-up and it thus makes sense not only to have one assignment, but to integrate various PBL assignments at least in one course, in order to allow students to "learn how to learn" in this environment.

PBL works especially well in small groups, but it can also be used in a bigger classroom. Pre-discussions can be integrated in lectures before students engage with the material until the next meeting. Or alternatively, students could be asked to prepare a pre-discussion on their own, and the lecture is used to compromise and compare the different questions that students suggest to focus on until the next meeting.

If PBL is used in a small group setting, one should make sure that the room setting allows to sit in a circle or U-form. Also, for the pre-discussion there should be the possibility of using a white/blackboard or any other form of visualisation.

Tips

Adapt PBL in a way that it fits your objectives of instructor: you have to feel comfortable (and excited) in using this pedagogy

Keep it simple (especially at the beginning):
do not design complicated assignments, as it will overwhelm your students (and you).
Keep it clean and simple

Guide but do not prescribe/ manipulate: when designing a trigger for students, think about the puzzle that you want them to discover (not specific questions or specific literature); keep assignments short and simple; make sure that you give enough space to students to discover the topic in their own

Experiment and share: discuss with your colleagues, but also use feedback from simple assignments to discover how students approach

Simulations in the Social Sciences
Introductory Overview

The enormous flexibility that simulations offer gives instructors a world of opportunity to explore materials in new, engaging and memorable ways. It is no coincidence that many of those who use simulations in their teaching are people who have experienced them at first hand: it is no exaggeration to say that most of the very few specific learning experiences this author has from his education came in simulations. Moreover, it is an approach that carries over well between disciplines across the social sciences.

A simulation offers the opportunity to 'live the world' of the phenomenon that we are studying, and it is in this 'living' that learning occurs in a profound way that engages students by requiring them to develop a personal model of that 'world' and how to engage with it: if I have to pretend to be the head of the Albanian unit responsible for property rights, and I have to then engage in a simulated interaction with officials from the European Commission, then I can get a much more nuanced understanding of the importance of that issue to Albania's efforts to join the European Union (EU) than I can from a lecture on the same subject.

Definition

However, simulations go beyond the active-learning assumption. In particular, we could argue that they embody two core ideas. The first of this is the notion that the world (or at least the specific phenomenon in which we are interested) can be modelled, by which we understand that a set of relatively simple rules can encapsulate the fundamentals of a given situation. Those rules might take the form of some kind of decision-making architecture (e.g. voting rights, structural relationships between actors, etc.), or of personal or institutional characteristics (e.g. peoples' intrinsic desire for power, or for optimisation of gains), or indeed of random events (e.g. using dice to generate chaotic situations). Thus, a simple simulation to explore negotiation dynamics variously assumes variously that large groups of actors find it hard to make decisions efficiently, that actors will bring personal world views into negotiations and that time management is not a primary concern in negotiations. (See Useful Toolkit Resources below for the link to the simple simulation) Put together, they inform a scenario that allows students to experience them in a very direct way that has direct meaning for each of them.

The second assumption is that the world is complex, by which we understand that despite such simple rules, the results are intrinsically uncertain and non-linear, because of the chaotic nature of human interaction. Put differently, when we run a simulation then we do so in the knowledge that both the process and the outcome will vary from iteration to iteration, and indeed it is precisely that uncertainty that we wish to convey to students. To return to the simple game mentioned in the previous paragraph, each instance of it being played has thrown up a different set of approaches, ideas, practices and outcomes. This has ranged from protecting the threatened town, to pretending to be unaware of the attack, to taking your soldiers out of the town to assassinate the president!

Taking this all together, this guide aims to show how simulations can work, how to get the most out of them, how to deal with the issues that they can throw up, and even when not to use them. We hope it eases your path into discovering a really exciting area of learning and teaching.

Description of the method

One of the most frequent questions asked about simulations is simply one of definitions: what is a simulation? Is it the same as a game, or a role play? Is it problem- or enquiry-based learning? Does it imply something particular?

In simple terms, a simulation is *a recreation of a real-world situation, designed to explore key elements of that situation*. It is a simplification and essentialisation of some object or process that allows participants to experience that object or process. Put differently, we take out some element of the real world and create a simple space in which to consider and interact with it.

However, beyond that very broad definition, simulations are what you make of them. As this guide hopefully demonstrates, simulations can cover a vast range of activities, from the very simple and brief, to the deeply involved and extended.

Games tend to fall at the simpler end of the spectrum – e.g. in creating very stylised environments – but also shade into the related worlds of video-gaming and serious games. Role-plays are effectively coterminous with simulations, albeit with the emphasis more explicitly on the adoption of a particular role or person. To try to reduce confusion, 'simulation' is used in this guide to cover all of these. While simulations do share many common features with problem- and enquiry-based learning, the latter do not have the same basic conceit of recreating real-world situations and so fall into a somewhat different category.

What ties together all of these pedagogical approaches is the notion that the world can be brought into the classroom in a way that allows participants to actively engage with - and immerse themselves in - the material. In short, they offer an excellent way for students to build knowledge and skills in a learning environment that they control. For the educator, it opens up new spaces for interaction and moves the focus on to student-led learning. This has been most simply captured by the proverb quoted in Hertel & Millis (2002, pp. ix): "I hear and I forget. I see and I remember. I do and I understand."

As a final point here, it is helpful to think about some of the key roles involved in simulations. A **game-designer** is the person (or people) who set up the simulation's objectives and rules, while the **game-leader** is the person on the ground for the actual running of the simulation (the **game-play**): this is often the same person as the game-designer. The game-play might also be observed by **assessors**, who play a purely passive role. Finally, we have the **participants** (usually students in this context).

Learning Objectives

Using simulations suggests a number of questions and problems. In this section, we look at those, to help demystify what is going on.

Why bother using simulations?

Simulations offer a very different approach to learning & teaching, opening new learning spaces for students and offering new opportunities for the instructor. They help to expose some of the fundamental principles behind social science, namely our efforts to model the world around us through relatively simple concepts, and the complexity that emerges from those simple ideas.

What do my students get from it?

Students get to have a 'lived experience', to take on roles and positions and use them in an active way. This in turn builds much deeper student understanding of often complex issues and situations, as well allowing them to develop a wide range of skills (e.g. research, preparation, presentation, negotiation, reflection) that have a wider value. By moving away from a passive model of learning to an active one, students can better understand how their time in the classroom fits with the world outside.

What do I get from it?

For an instructor, simulations offer a new way into the material they teach, shifting the focus on to students' understandings and experiences and opening up debate and reflection. The shift in approach can engage students in a different way, changing the dynamic of a group and building its group identity. In addition, the sheer variety of responses to a given simulation can help you take a second look at things that you have taken for granted.

Useful Toolkit Resources:

☐ Video "Why Bother": http://bit.ly/1Bs8A9V

☐ Video: "What do students get from it": http://bit.ly/1CdJlvF

☐ Video: "What do I get from it": http://bit.ly/190rnCv

Role of the Teacher

What is the role of teacher/instructor?

This is a tricky question, but usually the advice would be to keep your role in the actual simulation as small as possible. The reason is simply that because of your status as the teacher (indeed, as the marker), anything you do will carry a disproportionate weight and will skew everything else. Much better to have shaped the simulation environment beforehand and let the students have a free hand in doing what they want to.

The upshot of this is that your role should be one of game design beforehand, observation during, and debrief/feedback afterwards. In this way, you respect the students' actions and then help to contextualise their learning in the wider setting of the course.

The difficulty here is in not controlling what happens during the simulation, especially as students start to do things you hadn't expected. Unfortunately, this comes down to experience and practice: even when it doesn't work as you thought it would, you can still get a large amount of learning through the debrief.

I just sit in the corner, while they get on with it, right?

Not at all. Simulations are nothing without feedback, so that requires you to be in a position to give that feedback. This means taking notes, video, photos, audio, whatever you might need to capture what is happening in the room: this is a function of the size and length of the simulation. One point to remember is that an individual cannot watch more than a handful of people for any length of time, especially if those people are also using online and informal communications, so you might need to get more helpers to come in, especially if students are going to be tested on what they have done in the simulation itself.

Useful Toolkit Resources:

☐ Video: "Feedback": http://bit.ly/190wRND

Before and during the class
How do I create my own simulation?

This is the big question. While we need to recognise that the variety of possible simulations is so vast as to defy creating standard models, we can still see some key steps. Firstly, you need to identify a central puzzle that you want students to address: this might be a theoretical concept, or a practical case-study. This is the trickiest part of it all, for once you have that central idea, you can then work relatively easily through the following questions: what kind of interaction will you use to explore the idea (e.g. formal meeting, role play, producing a negotiated document)? How many students will play? How much time do you have? Do you need to assess it?

Because this can feel like a rather abstract explanation, you can also watch the following video where we take through a practical example (of this crisis game simulation). There is also an exercise that takes you through this process.

Isn't it a lot of work?

Short answer: yes. Longer answer: yes, but it is well worth it. Simulations take time to create and refine, as well as to put in place the necessary preparatory work with colleagues and students, the observation during the simulation, and the feedback afterwards. However, while that cost is quite high for a first-timer, you can reuse a lot of that for your subsequent efforts. The pay-off comes with the experience it offers students, not only for their knowledge and skills development, but also for their engagement with their studies.

When you are done, there are some questions you might ask yourself, to check if you are still on track:

Questions to reflect on from Simulations in the Social Sciences
Part I:

- [ ] Is the central purpose of the simulation still clearly in focus, i.e. is it conceptually clear?
- [ ] Can the simulation be explained to players in simple terms, i.e. is it practically accessible?
- [ ] Is the volume of work placed on players reasonable and proportionate, i.e. it is practically viable?
- [ ] What is the worst that could do wrong with the gameplay, i.e. does it have failsafes?
- [ ] Could the work all be done in another way that met all the objectives, that wasn't a simulation, i.e. is it worth doing it at all?

How complicated does it have to be?

This is a bit of a trick question, because the answer is that this is entirely up to you. For new users of simulations, it is worth just trying something simple, and then building out from it in later runs. The main point to keep in mind is that you need to make sure that whatever you do, the central objective is still clear to all involved; additional complexity might better reflect the reality of a given situation, but it might also distract from the idea you wish to communicate and it might produce some unanticipated effects.

Useful Toolkit Resources:

☐ Video Practical Example: http://bit.ly/1E4SV7y
☐ How to do Simulation Games, Small crisis example exercise: http://bit.ly/1bxiNNo
☐ Video: "How do I create my own simulation?": http://bit.ly/1BOhNcK
☐ Video: "Isn't it a lot of work": http://bit.ly/1E4Ovxp
☐ Video: "How complicated does it have to be?": http://bit.ly/1yd9y9G

Can't we just do this online?

Of course you can, although you still need to go through all the stages discussed here. Most simply, online channels can be added to a face-to-face simulation, either for communication (email, IM, Twitter, etc.) or for building collaborative documents (wikis). In some cases, a fully online model might be appropriate (e.g. when exploring the impact of online communication on negotiations). However, replacing interaction between students with interaction with a computer programme will lose much of the point of a simulation.

What subjects can I cover with a simulation?

Pretty much anything you like. Topics that lend themselves well to simulations are those which are relatively complex, with multiple dimensions, where students get to see how those dimensions interact with each other. For simple concepts, simulations can offer a powerful and memorable learning experience, but typically have a low density, i.e. they take a long time to make a short point.

Is it always right to use a simulation?

No, it is not. Simulations are not a be-all and end-all, but rather one tool that we should have at our disposal. They require students to engage with the scenario and presuppose that they either have sufficient prior knowledge to participate or will be motivated to get that knowledge quickly. Those assumptions might not be justified and that is a judgement you have to make. You should not use a simulation for the sake of it, but because you feel it will add value.

Assessment

Do I have to test students on what they've done?

This is up to you. When starting out, with a short and simple simulation, it is usually not necessary. However, if the simulation becomes a bigger part of the contact time with the students, then assessment can be a way of increasing student engagement. There are three main options for assessment:

- Test the students' knowledge, based on their simulation. This can be done by a standard essay or exam, typically when the simulation is an elaboration of elements covered in other sessions of a module;

- Test the students' skills development. This might be by observation of their actions during the simulation. In this case, attention needs to be paid to how you will cope with any requirement for second- or external-marking: videoing the session might suffice, but discussions with relevant parties should be had;

- Test the students' critical thinking. Here you ask students to produce a reflective piece after the simulation, discussing their actions, scope for improvement, etc. This approach can be coupled to the other two and has the benefit that it emphasises the importance of self-reflection to students.

Practical Aspects

How long does it have to be?

Again, a bit of a trick question: you decide how long it should be. Short simulations (30 minutes to an hour) can be very simple in organisation, with little or no preparation needed. Anything longer usually needs you to think about preparatory reading or activity, as well as how you will observe everything: if you are looking at a day-long or multi-day event, questions of refreshment and food become relevant. In practice, the main constraint is institutional – you have the time that the timetable allows. Usually that points towards shorter simulations, but you can also split a long simulation into smaller and shorter elements.

Do I need a special room?

Not really, but you do need to think carefully about what your students will be doing. In particular, you need to know if your students will be moving about at all: if so, then you have to avoid rooms with fixed furniture (e.g. lecture theatres). These latter are good for former debates, but really hamper movement. Typically, students will need space to sit and to write, so flat-floored rooms are usually best. Again, you might be constrained by your institutional timetable and room availability: if you have a large group, then you might consider splitting it up into smaller ones that go into different rooms.

How many students do I need to run a simulation?

Anything from one upwards. Single player games usually need some counterpart (in the form of a computer or a game-sheet) and are rare: simulations' value comes from the interaction between players. Debates work best between 8-20 people (i.e. a seminar group size), so aim for that: larger groups need more structured debate, with roles being played by teams with spokespersons. The danger in large groups is that often there is little for most people to do, so you need to think about how to give them a useful function (e.g. by running parallel sessions).

Useful Toolkit Resources:

- [ ] Video: "How long does it have to be?": http://bit.ly/1HUpV0d
- [ ] Video: "Do I need a special room?": http://bit.ly/19UmYSL
- [ ] Video: "How many students do I need to run a simulation?": http://bit.ly/1EHpvar

Debriefing

How do I give students feedback on what they've done?

When taking observation notes, focus on the three main elements:

- Actors: who does what? Who leads and who follows? Who has ideas and who arbitrates?
- Process: what is the pattern of interaction? What is the dynamic of the simulation?
- Outcomes: what is the result? If there is a document, is a 'good' or 'realistic' one?

As soon as possible after the simulation finishes (ideally, immediately after), start by asking students to talk about what they have found: often they will come up with points you have missed, so it is good to show that you are giving a space to their reflection. Only then do you add in your observations and connect it to other learning. Showing students video of themselves can be a good way to correct mis-remembering.

What if it all goes wrong?

This is a matter of debate. Some people want to be confident that their simulation will roll down the tracks they have planned. Others, including this author, feel that a part of using simulations is precisely that it allows for things to go off the rails: it is a safe way for students to make mistakes and then learn from them. Broadly speaking, if it does not end in violence or the sundering of relationships, then it has not 'gone wrong', only gone differently from expectations: students need to be forewarned of the possibility, but without judgement.

How do I know if my simulation has worked?

This depends on what you set out to achieve. If you use assessment then you will have a measure of success, but even if you don't then the feedback process should give you some understanding of student insights: do not be afraid to ask them what they thought of the simulation as a simulation. That participant feedback is often the most useful, because it is only in the playing out of a simulation that one gets to see how it works (or doesn't) – for that reason, you might consider playing it yourself with colleagues.

Useful Toolkit Resources:

☐ Video: "How do I give students feedback on what they've done?": http://bit.ly/1D1YTGg

☐ Video: "What if it all goes wrong?": http://bit.ly/1OAN8tB

☐ Video: "How do I know if my simulation has worked?": http://bit.ly/19UowMA

Potential challenges
What are the biggest challenges or problems in using simulations?

Possibly the biggest challenge is about changing peoples' attitudes; both students and your own. For students, there has to be a explicit mechanism to reinforce the message that a simulation can be both enjoyable and academically valuable. Giving students licence to step out of themselves and speak more freely is central in making the most of this pedagogy: we shouldn't be surprised if that takes some getting used to.

It also requires adaptation by staff. Simulations are intrinsically uncertain, in the sense that they might point in a general direction, but the precise path taken will not be known until you are on it: it's not that you have no idea at all what will happen, only that you have some uncertainty. That uncertainty requires staff to be willing to let go from the conventional model of controlling the classroom. In a lecture, you are in charge, the students are mute and you are the conduit for all that is 'important'. In a simulation, you set out a framework, but then students take the driving seat and do… well, they do something, which sort-of matches what you intended. Then you have to debrief them to see how that matches up with your ideas. In short, you co-create with the students.

If you can get everyone to be comfortable with this shift in approach and with the uncertainty, then you can deal with the prosaic matters that are dealt with elsewhere in this guide.

What happens if it goes wrong?

'Going wrong' is a very interesting view here. The starting point has to be a recognition that simulations will always go in a way that was not fully predicted, precisely because they create spaces for players/students to make choices. Thus 'going wrong' has to be broken down into different categories.

If students do the simulation and end up with something roughly as planned, then it's clearly worked. Likewise, failure to produce a final output can also be considered to be a success, since it is the process that matters as much as the output, and the failure to produce that output can/should be a key part of the debriefing. Think of real-life: legislators don't always agree on a text in the end, but there's still much to learn from that (possibly even more than if they did).

Failure can really only consider to have occurred if the simulation produces some radically different activity to that planned. This happens very rarely, and usually in simpler simulations: here there is some inconsistency in the rules, which produces the perverse behaviour. This is why you need to think through how players will play before you play it with them: think like they would, and find a friendly colleague to practise on. More complex simulations usually don't have the same problem, if only because they have more complex rules, which limit the possibility of such perversity.

If there is some chronic failure, then you have to make a decision about what to do: for smaller simulations, it's probably easier to let them finish; for larger games, you might have to make some running repairs. However, if you do the latter, be careful not to get sucked into the game: often things will correct themselves.

However, if failure does occur, then there can still be learning from it: ask students to consider how and why the simulation 'failed' and what could/should have been changed to prevent this happening. This is actually a good discussion point for any simulation: how does it match up to real-life?

In short, things never go quite how you think they will, but that is not the same as saying that they go wrong.

Useful Toolkit Resources:

There's a lot to take in, when using simulations, so here are the key points for you. The video below covers the same ground in a more abbreviated version:

☐　　Top Tips Video: http://bit.ly/1M4gCRz

Top 10 Simulation Tips

1 Keep it Simple

This is the most important point to remember! It is really easy to get caught in producing something complicated and involved, but when you are starting out, start small. You can make a simple simulation that does not require any great demands on you or your students, try it out so that you can get more comfortable with the practice of using it, and then add more elements to it. If you are not comfortable with it, then you will find it hard to explain to students, or to reassure them, and you are also less likely to try it again. Remember that even simple simulations produce a lot of rich learning opportunities, so you will not be depriving yourself on that front.

2 Know what you're trying to do

This is a big truism of all learning and teaching, but one that is easily forgotten. When putting together a simulation, it is essential that you do not loose sight of the central purpose of the exercise, its learning objective. Typically, this should be something focused, either a piece of substantive knowledge (e.g. a concept) or skills development (e.g. negotiation). As you build a simulation around this objective, remember to keep checking that this is still clearly achieved. This is essential if you to be able to communicate this to students, both through the simulation and the subsequent feedback.

3 Have confidence in students' ability to work things out for themselves

A big fear in using simulations is that you do not have control of what happens: instead, you set out a scenario and let students work their own way through that. More often than not, they will do something unexpected, or in a way that you had not foreseen. This is a good thing, because it helps to expose the many different ways that we can tackle such issues in social science. You just need to have confidence that students will be able to sort things out for themselves. In short, it is committing to a 'no spoon-feeding' position.

4 Connect the simulation to the rest of students' learning experience

Avoid making a simulation an 'end of module' thing, a 'bit of fun' to fill an hour. Instead, make connections back into students' prior knowledge, across into their learning within the rest of the module, and ahead into the rest of their studies. This means giving feedback and drawing out lessons for students.

5 Always feedback

One of the worst things you can do with a simulation is to just run it, then leave it. As underlined on the previous point, without feedback, students can find it hard to relate their experience within a simulation with the other things that they do in their studies. When giving feedback, always start by finding out what they have learned, and only then talk about what you observed: it is important to underline the value of their

6 Keep track of what's happening

You can only give meaningful feedback if you closely follow what is happening. This is especially true if you are giving marks for participation, but holds regardless of whether there is assessment. Remember that it is very hard to follow more than a handful of people at once over any period of time, so think about capturing what happens with video, audio or online technologies.

7 Does it take longer to explain than to play?

If this happens, then you've lost your focus. Ideally, a simulation should be simple to explain and learn, but complex in its operation and outcomes. A good tip here is to think about what is causing the complexity, then throwing it all out or finding an analogous, or a more abstract situation. Remember that in simulations, the focus should be on students, not you.

8 Remember your constraints on time and space

A sad truth is that we often have to work with constraints on our time and rooming, so you need to take account of this when building a simulation. Indeed, you can use this to force yourself to think more creatively about how to meet your objectives within those constraints. Remember that if you need to do something 'big' you might split it up into smaller elements that will fit more easily into a timetable.

9 Play it again!

Some of the most rewarding experiences as an instructor using simulations come when taking the same simulation and running it again, with different people. It really exposes the role of human agency, a key concern of all social sciences, and gives us another layer of analysis and feedback. You might even consider running a simulation twice with the same students, to let them see how they change. Playing a simulation again also let's you build it up and add new aspects.

10 Share your ideas and your experience

The sheer variety of forms and types of simulations is one of the great attractions of this approach, but also a barrier. If you can share your experiences and ideas, then others can see new ways into their own teaching needs, and you can get feedback on what you have done.

Useful Toolkit Resources:

For additional resources see the following document:

☐ Simulations Literature Review

E-learning

Description of the method

The use of technology in education has been increasing in the past decades, ranging from exclusively online modes of delivery to including certain tools or web based applications in the classroom. Ideally, technology is being used with the *aim of complementing and enhancing the learning experience*. Therefore, the primary concern when planning to use e-learning should be of pedagogical nature: looking into the learning objectives and identifying specific issues or moments in the learning process where technology can bring added value.

Firstly, a bit of clarity is required. There are around twenty terms that refer to the use of technology in education (e-learning, education technology, learning technology, technology-enhanced learning, to name only a few). The fuzzy terminology betrays the fact that we are talking about a *complex, integrated system*: e-learning does not only refer to the actual tools and equipment used to support teaching (software and hardware), but also to the skills necessary to develop and use these tools effectively, to the pedagogical understanding of how the tools can be used appropriately as well as to technical and administrative support to ensure that everything works smoothly. Another particularity of this system is that it involves *people with different skills and backgrounds working together*: professors, IT developers, learning designers. This is not an aspect to be underestimated, as it is extremely important to find a common language and a suitable workflow to enable the efficient running of the teaching and learning process.

There is also a certain degree of confusion between *e-learning* and *distance learning*. Even if they are often used interchangeably, they do have different meanings. *"Distance education"* is more a mode of delivery rather than an educational philosophy. Its main characteristic is, indeed, the distance between the teacher and the learners; moreover, it has always been linked to very specific target groups who cannot, for various reasons, be present on campus. *"E-learning"*, on the other hand, does not imply the need for distance between educators and learners, as it can often take place on campus, to complement the classroom activities. Moreover, it is not limited to distance students, being used by all types of learners, at all levels. In other words: e-learning is all about learning with technology, be it on campus or remotely. It can be (part of) distance learning, but they are not necessarily synonymous.

One of the main advantages of e-learning is *flexibility*: the opportunity to learn wherever you are and whenever you plan to do it. But self-paced *and self-regulated learning*, however convenient, requires a substantial degree of discipline. This applies both to teachers and students. Moreover, there is always the risk of feeling isolated and thus loose attention and motivation. Therefore, more than in the traditional face-to-face setup, in e-learning it is essential to create a community of learners including both teachers and students. This *"community of inquiry"* has the purpose to facilitate understanding and encourage critical thinking while it allows

participants to *identify as a group* and *communicate effectively*. This latter aspect is vital in the virtual environment, where the obvious cues of face-to-face communication are lacking, and therefore might require extra effort.

When we talk about e-learning, we can differentiate between two types of delivery: the asynchronous mode and the synchronous mode. Both types have they strengths and weaknesses (as outlined below) and that is why one may argue that it is a good decision, when planning to implement e-learning courses, to think of including both modes and finding the right balance between them.

Asynchronous e-learning usually takes the form of a learning platform, called Virtual Learning Environment (VLE) or Learning Management System (LMS). Technically, these platforms can either be open source, like Moodle or Chamillo, or commercial, like Blackboard. They all come with a set of standard features and can be further customised to best match the learning needs in a specific educational context. The standard (and most used) features include different forms of representation such as text, pictures, video and audio input. Moreover, forums are used to facilitate interaction between tutors and learners and among learners. Such platforms can be used either independently (for stand-alone courses) or as support for traditional courses; in each of these cases, however, the learning objectives are different and so are the expectations from the use of technology.

Asynchronous e-learning

PROs
- Comprehensive: a lot of information, various types of assignments, self-monitoring;
- Offer time for reflection; no need for immediate response;
- Self-paced, flexible (in terms of time & location)

CONs
- No live interaction; can lead to a feeling of isolation;
- No teacher immediacy;
- Requires a lot of self-discipline for both teachers and students (and management of expectations)

Unlike in the case of the Virtual Learning Environments, *synchronous e-learning* brings about the "live", real time communication. This can take the form of webinars (online seminars), online conferencing or instant chat (with audio and video options). Being designed for educational purposes, the various web conferencing tools (there are both free and paid for options) provide various functions that facilitate an interactive learning process. Meetings are set up and can be joined through a single click on a link sent by the teacher/ moderator to the students; no additional software is necessary and the technical support needed on both sides is very limited. There is increased focus on accessibility, the virtual classroom being compatible cross-platform and optimised for low bandwidth. Interactivity takes place both in an audio (and video) format and in written format. Teachers and students can share applications, files and documents and give

presentations. Moreover, all sessions, including all materials and forms of input (written, oral, visual), can be recorded and sent to the students that could not attend, but also to the students who did attend, as support for the revision of the course.

Synchronous e-learning

Methods of Online Collaboration
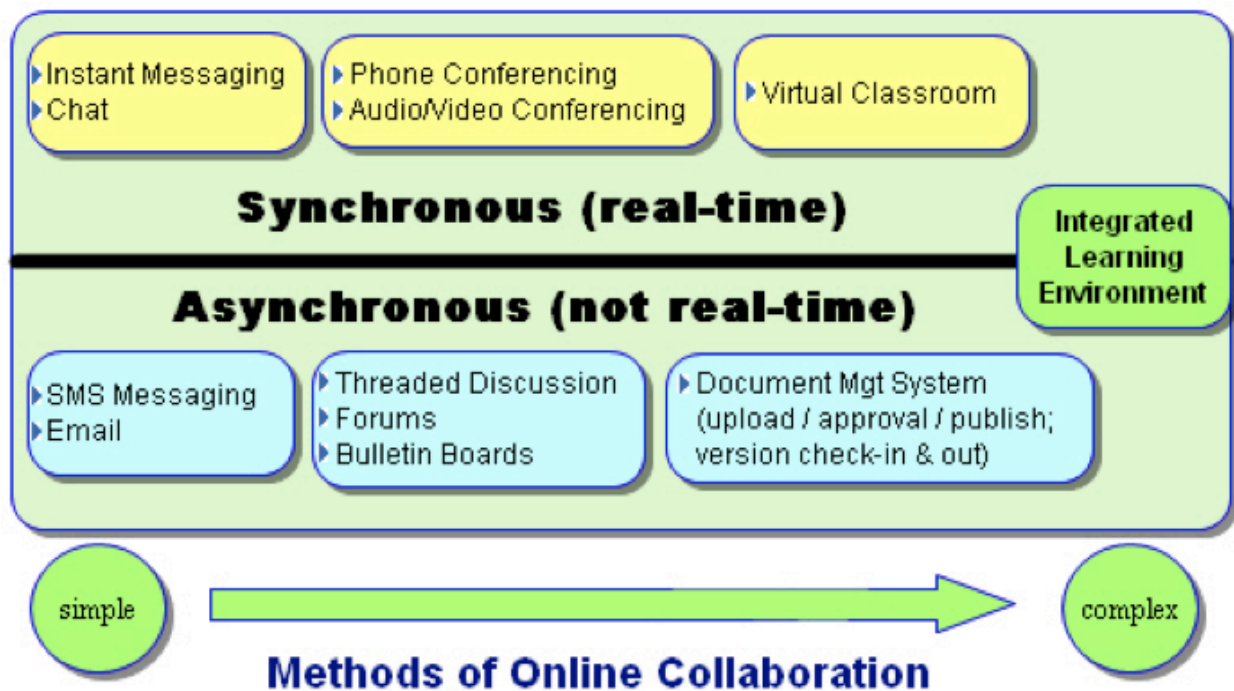
On the PLUS side:
• Increased interaction capacity (VoIP, Chat);
• Facilitates social interaction/ "parallel interaction";
• Helps develop learning communities;
• Teacher immediacy (with different roles); increased student attention & motivation

But there are a few challenges:
• Real time communication does not translate always as collaboration
   ❖ Low level of group coordination
   ❖ Weak coherence of the various contributions
• Lack of non-verbal communication cues makes it more difficult to keep up the level of student motivation

Beside definitively opting for one of the two delivery modes described above (or indeed a mix of both), various **online tools** can be used in and beyond the classroom in a more flexible manner. They extend the learning space by adding a virtual dimension and can, if used effectively, bring added value to the educational process. Their success is directly dependent on the extent to which they represent an integral and meaningful part of the curriculum, and the purpose and relevance of their use must be clearly understood by teachers and students equally.

Here are some of these tools and a few ideas on how they can be used:

Blogs: can be used by both teachers and students with various purposes; they can be used as a tool for internal communication but they can also be integrated in the curriculum and used for assignments, as a "safe space" where students can practice their writing skills without the rigours of assessed essay-writing tasks;

Wikis: can be used as a platform for collaborative work by both teachers and students; for teachers the added value comes from the opportunity to build and share curriculum maps, as well as best teaching practices and ideas; the wiki ca also serve as a thematic portal for lesson plans, a very useful coordination and collaboration tool; students can use wikis to work together on group projects and assignments, as well as for collaboratively building a knowledge repository to support their learning.

Podcasts and web lectures: recorded lectures can be a valuable learning support, while recording classroom debates and simulation games and playing then back during the debriefing session is a very useful feedback tool; web lectures or webinars can connect teachers and students from various universities (and countries) in real time, allowing for exchanges of ideas and experiences without involving any travelling.

Social media; its use in education is linked to the concept of student-centered learning, implying reaching out to students and joining them in their environment; this is by no means risk-free, as the borders between private and public, personal and professional are rather blurred, so clear rules should be set before integrating any of the social media platforms in the teaching process; moreover, the goals of using social media and how/ if this will be assessed needs to be very clearly explained by the teachers, so that the students know exactly what to expect and use the platforms accordingly.

Twitter: can be used by teachers as a "virtual staffroom" allowing them to exchange teaching ideas and lesson plans with peers from anywhere in the world; students can use Twitter as part of various (beyond the classroom) assignments, mainly with the aim of teaching the students how to communicate the essential in a succinct manner; moreover, Twitter is a good way for the students to keep themselves updated with the latest developments in specific fields of their interest.

Facebook: can also be used as a support network for teaching activities such as simulation games, bearing in mind that the vast majority of students are already on that platform so teachers can use their everyday communication to link it to the course content; however, as Facebook has often been criticised for its rather loose privacy policies, it is crucial that the boundaries between private and school-related are not crossed and the teachers should confine themselves to playing a neutral referee role in the process.
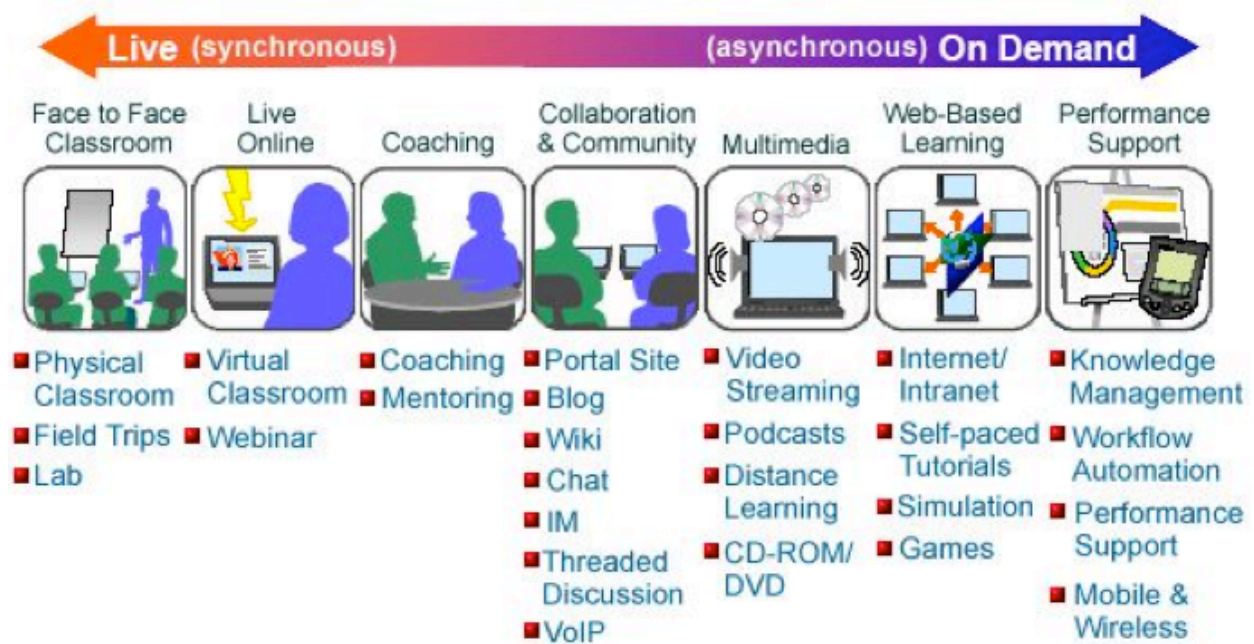
Learning objectives

The use of technology can support and enhance the teaching and learning process. It also has an impact on the learning objectives set for the various courses. Beside facilitating the transmission of knowledge, using various forms of representation (text, video, audio, etc), the use of e-learning can contribute to:

▷ *Skills development*: learners train their skills in finding and processing information online, thus learning how to monitor developments in their area of interest; they also train their writing skills as well as their analytical and critical thinking;

▷ *Digital literacy*: a "by-product" of learning (and indeed teaching) online is the awareness about our digital footprint and the reflection on how we relate to technology in our personal and professional life.

▷ *Improving self-discipline* for learning through learning: as a self-regulated process, successfully learning online requires an important amount of discipline; students organise their own learning process and thus acquire new skills of prioritising their workload, setting and reassessing their goals and using time efficiently to achieve them.

Role of the teacher

Unlike in the case of the traditional classroom setup, where they mainly have to concentrate on delivering the content, in the virtual environment the teachers have to fulfil various other roles that are equally important. One can identify four categories of roles:

- **Knowledge provider**: the quintessential function of the teacher; in online learning the focus is shifting from a static ex-cathedra presence to a more dynamic and diverse status implying guidance and support in a labyrinth of information; the teacher plays the role of a *curator*: monitoring the existing information and guiding the students through the most relevant and trustworthy sources; knowledge is constructed collaboratively, with the students.

- **Facilitator**: educators act as facilitators of dialogue and exchange; they need to take a step back and create a space for interaction and debate (crucial in the virtual classroom) in order to build a learning community; the teacher as a *coach*, constantly training and motivating the students; non-hierarchical setup: the teacher as a co-learner.

- **Course designer**: designing a course, building the curriculum, organising it and managing both the content and the students' activity; communication with the students and managing expectations are more important than in a traditional setup; this requires an important amount of self-discipline and a thorough organisation of the daily work routine that differs, sometimes to a large extent, from the routine of teaching in face-to-face environments.

- **Technical mediator**: role specific to the virtual classroom: educator becomes a mediator between students, colleague teachers and the technical staff; this often brings teachers out of their comfort zone; they are required to develop new skills and especially a familiarity with the virtual learning environment, which can contribute to building students' and colleague teachers' trust in the online platform; because this is such a specific role, the need for specialised training as well as constant support is crucial for the smooth development of the online courses.

Before and During the Class

The first stage in course design is the *analysis*: in order to develop a learning environment that is accessible and suitable for a variety of people with different backgrounds and learning styles, the instructor first needs to assess who the learners are; most of the time this is done without actually knowing the students' profiles, but based on information about previous similar courses. Once this is done, the main stages- *design* and *development*- can begin. This is the moment when the instructor decides on the precise syllabus of the course and starts developing the weekly activities and assignments. The choice of what will be delivered in a synchronous and asynchronous mode is also made at this point. It is a matter of considering how the time span of the course can be spent in the most effective manner. Usually, as seen above (synchronous vs asynchronous e-learning), the asynchronous environment can be best used to encourage students to read more of the resources provided and reflect upon them, as well as interact on discussion boards and submit assignments. The synchronous moments need not necessarily constitute online lectures, but should rather focus on group discussions on topics and materials provided ahead of the session. An important thing to keep in mind is that the online environment allows the use of various modes of representation (text, audio, video, etc) and as a consequence, instructors can decide upon a mix of these in order to provide the learners with a certain degree of flexibility in how they access, process and show knowledge.

During the implementation phase, *five important aspects* need to be taken into account:

1. *Creating a welcoming environment*: in the beginning of the course it is very important to create a well structured, welcoming learning environment; in practice, this includes familiarising the students with the curriculum, the content of the course, the methods used, but also with the technical features of the platform(s) used;

2. *Communication and support*: more than in a traditional course, in an online environment clear and precise communication and managing the expectations of learners are key features; instructors can make use of visual elements (e.g. charts, timelines, "your weekly schedule at a glance") and try to create a certain routine that students can stick to. This can take the form of posting materials and assignments on a certain day of the week and providing clear deadlines. Moreover, instructors/ tutors should make clear to the students when and in what form support is available (e.g. virtual office hours, email, Skype, etc).

3. *Student engagement*: in an online course, extra effort should be put in engaging the students and making sure they keep coming back online. Beside the regular tasks and assignments, particular attention should be given to making the topics as relevant as possible to the learners, connecting them to their background and

previous experience. Moreover, it is worth trying to address the various learning styles by using different modes of representation, out of which students can choose the preferred one(s).

4. *Building a learning community*: here the focus should be on encouraging students to interact with each other and with the tutor(s); as interaction in an online environment is not so obvious like in a face-to-face setup, instructors need to prepare the tasks and scenarios in advance and act as facilitators. Depending on the learning objectives, interaction can take place both in the asynchronous environment (collaborative tasks, forum discussion) and in the synchronous virtual classroom (webinars, chats).

5. *Assessment and feedback:* introducing various forms of assessment, *t*hroughout the course, by means of which different types of knowledge, as well as skills are being tested. Constructive, formative feedback is a vital part of the learning process; the feedback needs to be timely and as personal as possible. You can find more details on assessment and feedback in the following two sections of this handbook.

Follow the next activity to get a sense of what needs to be taken into account when designing e-learning courses:

This activity has **three steps**:

1. Increase background knowledge on the use of e-learning with the help of a list of suggested readings; reflection on the key elements to be taken into account when designing e-learning courses;

2. Design your own mini online module including outline, content (text & multimedia), assignments;

3. Peer review and self-reflection on the online course design process.

Step 1: Reading and Reflection

This activity comprises of reading the suggested material and writing a short reflective paragraph on it. You can choose to write about one article only or you can write more general reflections, linked to more articles and your personal experience and answering the questions proposed in the next section.

☐ Read Activity Step1:Reading & Reflection (See attached)

Step 2: Developing an Online Course/ Module

☐ Read Activity Step2: Developing an online course/ module (See attached)

Step 3: Peer Review and Self-Reflection

☐ Read Step 3: Peer review & Self-reflection (See Attached)

Assessment

Assessment is a very important part of the learning process. In the case of e-learning, the use of innovative tools and methods for teaching and learning is not always matched by suitable assessment tools. In most cases, students are tested by means of traditional exams, often in a face-to-face environment. Online exams seem to be a more appropriate option, but offering this to students implies additional efforts (and admin/ IT support) for verifying their identity. Moreover, assessing the use of web tools and social media can prove challenging; in this case, it is not the knowledge that is being tested but the students' *performance* in certain tasks. In connection with the learning objectives stated earlier in this chapter, ideally instructors should aim to assess more than the specific content knowledge; *digital skills* (finding and processing information online) as well as the skills for managing their own learning online (finding information, using it, referencing it, etc) could also be tested, for instance, by using web quests, screencasts or videos.

When it comes to the different *assessment modes*, it is important to provide students with various ways of testing their progress as they are advancing through the course. These can be instant online quizzes or more elaborate weekly tasks to which instructors provide regular feedback. This helps students to manage their learning independently while at the same time offering the tutors the opportunity to provide scaffolding if and when necessary.

Practical Aspects

In the case of online courses, there are a few particular practical issues that need to be taken into account both in the planning and in the implementation stage. Firstly, because technology is involved, there are some specific requirements for delivering a course virtually. First of all, both instructors and students need to have the *hardware* and *software* necessary for accessing the course environment. Most of the platforms try to limit these requirements and thus enhance accessibility, but it has to be acknowledged that universities need to consider integrating technology in teaching and learning as an investment. Moreover, *access to internet* (and the internet speed) is also a vital factor for online learning, especially in relation to the synchronous elements, such as webinars. But beyond these purely technical aspects, a very important aspect, often neglected, is the need to be familiar with the technology used and acquire the skills necessary to use it in the most effective manner. This can often represent a challenge for both students and instructors and in order to ensure the success of the course, it is often a good idea to organise special *training sessions*, provide *handbooks* and clear guidance as well as *support* throughout the course. As mentioned before, the role of technical mediator is the one that is most likely to take instructors out of their comfort zone, so the more confident they feel about using a certain technology the more they can focus on their pedagogical goals and methods and on the course content and, at the same time, support students with their learning.

Beside the technology related aspects, one other specificity of e-learning is that it is *not confined to a time or a place*. This has both its advantages and disadvantages: On the one hand it offers *flexibility*, for both teachers and students, but on the other hand, as a largely self-regulated activity, it requires a high degree of *motivation* and *discipline*.

Debriefing

The last stage in the course design process is the *evaluation*. This is a very important part of the process as it includes *several useful exercises*:

▷ *Debriefing*: this consists of an open discussion with the students (and fellow tutors) on how the course went and to what extent the learning objectives were achieved;

▷ *Reflection*: this can take different forms, ranging from *self-reflection* (analysing one's own learning process) to *peer review*, whereby one offers and receives comments on their work.

▷ *Feedback*: this is a vital step and it goes both ways: because of the physical distance, tutors need to offer feedback regularly, both individually and to the entire group (e.g. during virtual office hours). Feedback can also be given via audio/ video (to make full use of the specificities of the online environment) and it is often easier for students to "digest". On their side, students also offer valuable feedback allowing the instructors to improve the learning environment for future iterations of the course.

▷ *Re-designing / updating the course*: the result of the above mentioned exercises can be used constructively in order to inform the process of adjusting the course in the future and offering students a better learning experience.

Potential challenges

The implementation of e-learning is often dependent on the level of recognition and the status it is offered within the educational system. While in some systems it is officially recognised as one of the delivery methods, on a par with face-to-face courses, in other systems online courses are seen as a mere complement in the curricula, without having a stand-alone status. Moreover, regardless of the context, universities often fail to acknowledge the fact that designing and delivering courses online, if done properly, requires more time, effort and pedagogical skills than offering traditional courses. As a consequence, the use of technology is in many cases being pioneered by a few instructors who are pensioned about trying out new methods and tools. However laudable this may be, in order to increase the uptake of e-learning, some form of *incentive* should be provided by universities; this can take the form of either monetary reward, a more symbolic form of recognition or the inclusion of e-learning tasks within the regular teaching portfolio, instead of them being regarded as "extra-curricular activities".

Another challenge is closely linked to the technical aspects of e-learning. As mentioned in the previous section, *IT support and training* are crucial for the smooth running of online courses. This is, again, an investment universities should be willing and prepared to make when moving (part of) their courses online.

Last but not least, teaching with technology doesn't have to be isolating, but it often can come across this way, thus putting off potential students as well as instructors. If technology is used to enhance not to replace human interaction and if teachers can dedicate enough time to finding the most suitable pedagogical methods to integrate technology, then the learning experience should be at least as successful as in the face-to-face environment. Nevertheless, it has to be acknowledged that implementing e-learning is often associated with a *steep learning curve* and requires a *change in mentality regarding the roles of both student and teacher*.

Tips

Pedagogy before technology: never put technology before the learning objectives!

Think and design your course **for** the virtual environment: simply placing your traditional course online will most likely not bring the expected results.

Communicate clearly and manage students' expectations: this will make your work throughout the course easier and will help you and the students overcome the physical distance.

Don't be afraid of technology: as technology is not a goal in itself, try not to be overwhelmed by it and especially try not to be put off when things go wrong!

Experiment, experiment, experiment!: the virtual environment can accommodate a great variety of activities and assignments; try them out and see what works best in the light of your learning goals.

Blended learning

Description of the method

Blended learning represents a hybrid learning approach that combines different elements of face-to-face (F2F), or traditional classroom, and online learning, such as asynchronous (online discussion forums, emails, blogs, wikis) or synchronous learning (instant chats, video-conferences, webinars). Blended learning is considered as one of the most successful methods of modern pedagogy, as it allows mixing together traditional and innovative teaching methods and addressing the growing needs of learner's flexibility in time and space. However, the biggest challenge of the instructor before embarking on the blended learning journey is to carefully explore the potential of various face-to-face and e-learning approaches and tools and design creative ways of interaction to increase the success of the learning process. There is no silver bullet blended formula, thus the teacher's role is to apply a tailor-made approach to course design that matches the course objectives, the learning delivery method, and learners' needs and expectations and provides a coherent learning journey.

Learning objectives

While considering the use of the blended learning approach, there are several main advantages and challenges that have to be kept in mind.
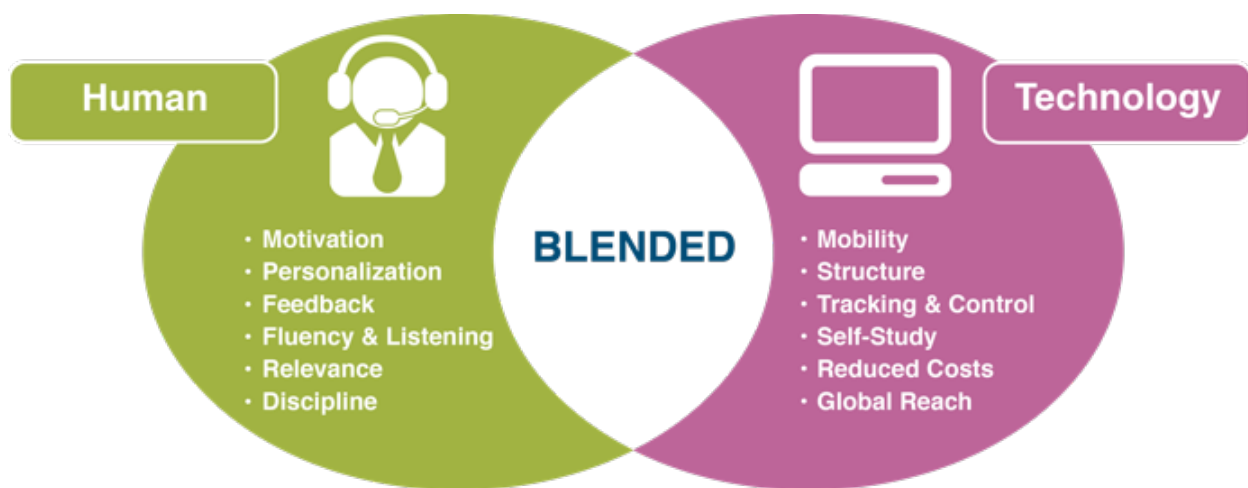
Advantages of Blended Learning

- Higher opportunities of transfer of theoretical and practical knowledge, combining formal learning (e.g. knowledge transfer) and informal learning, or learning by doing

- Blending and transferring a variety of valuable skills (problem-solving, organisational and group work skills, digital skills, language abilities)

- Incorporation of student individual needs

- Flexibility in time (when to learn) and space (geographical location of learners and instructors)

- Reducing the costs of transportation (academic experts and practitioners, learners' costs)

- Promoting inter-university cooperation and intercultural skills, etc.

Challenges of Blended Learning

- Getting the right blend: a tailor-made approach to course design and implementation

- Finding the perfect balance between the 'human factor,' instructor's and learners' presence, and the ICT in the teaching and learning processes

- Assessing and incorporating the needs of the learners' audience: traditional students, professionals or life-long learners, etc.

- More instructor time and flexibility in course design and coordination

- Technology can go wrong, readiness for prompt reaction and alternatives

- E-learning training of teaching staff and students

- Potentially costly, requires updated multimedia system

Blended learning, therefore, can contribute to :

▷ *Knowledge transfer,* offering higher opportunities of transferring theoretical and practical knowledge by incorporating various online resources and e-learning tools, as well as formal and informal learning processes

▷ *Skills transfer*, a tailor-made blended learning course design allows more flexibility in delivering various skills, such as problem-solving, organisational and group work skills, digital skills, language abilities and writing skills, etc.

▷ *Addressing the demands of modern education systems and the modern learners*, such as flexibility in time and space for accessing the learning process, incorporating student individual needs and promoting self-learning, reducing transportation costs, etc.

▷ *Facilitating life-long learning* by opening up the learning opportunities to broader audience of learners, including professionals.

Role of the teacher

The educator embarking on the blended learning journey can be described as a *super-instructor*, whose academic expertise must be complemented by technical skills on the use of e-learning, continuous professional development, flexibility and motivation.

The teacher is the architect and the designer of the blended learning, combining various roles during the course design and implementation.

Here are some key characteristics of teacher's role:

Role of the teacher in Blended Learning

- Defining the core elements of the teaching blend, or the 'spine' of the blended pedagogical approach, and deciding on the compatibility of the various F2F and online learning in order to ensure the successful achievement of course objectives;

- Assessing learners' needs and pursue a tailor-made design of the course in order to address as many typical learners' profiles (*personas*) as possible, taking into account the opportunities and constraints of teaching a blended learning course within a particular organisational environment;

- Higher degree of continuous professional development on behalf of the teachers than the traditional pedagogies, due to the changing role of the modern teacher and specifically the use of ICT enhanced teaching;

- Often require training on the use of e-learning provided by IT staff and exchange of practices with other instructors on matters like designing and implementing technologically enhanced courses.

- Constantly learning by doing and learning on the way, particularly when engaging with e-learning environments, often lacking previous personal experience with online or blended learning frameworks or encountering new challenges (e.g. technological problems) that require an immediate response during the course implementation.

Before: preparation, task design, preparing the students

A successful blended learning model may take different forms, however the literature on the subject highlights several tips regarding the course design in order to increase its success (see an example described by Martin 2003, Timus 2014). Firstly, it is highly advisable to have a F2F introductory and final evaluation meeting. These meetings are welcome for giving more room for explaining to learners various aspects of the blended learning course, providing some initial training and a tour of the online course material, as well as increasing community building and the presence of the 'human factor.'

Once the tasks are clearly set, it is advisable to balance between F2F and online tasks and assignment. For example, if a F2F lecture usually takes 2 hours, when considering the use of video lectures, it is advisable to shorten the length of the video recording of the lecturer (e.g. one or two videos of 20 min. on several main topics). This ensures a more efficient knowledge transfer and the instructor may encourage concomitantly a follow-up class discussion based on the video lecture. This may be done via asynchronous tools, such as forum, where students may post their questions to the lecturer and get written replies from lecturers later on, or via a combination of forum posting of questions and a life videoconference with the lecturer answering the forum questions *(see Annex… for examples of video-lecture design).*

Regarding the design of blended learning seminars or tutorials, an efficient strategy is to provide, whenever possible, a part of the tutorial as a F2F meeting or using synchronous tools such as videoconferencing softwares (Skype, web-conferencing softwares such as Adobe Connect™, etc.), and another part using the asynchronous tools, such as discussion forums, wikis, blogs, etc., which encourage collaborative knowledge building. *In the Annex… you may find a specific example of the design of a PBL tutorial online.*

The use of online or blended lectures and tutorials is an advantage in cases when there is a constrain of university infrastructure (size and number of classrooms), allowing a more flexible scheduling of lectures and adjusting to larger sizes of learners' audiences, as well as reducing the transportation costs of lecturers and learners.

A careful **consideration of the time and resources** available for an online or a combined F2F - online session is required during the course design. The instructor has to conduct the needs analysis of the learners' audience on issues such as their availability and flexibility of accessing the course, their preliminary background, the target skills that would benefit the learners (self-learning, collaborative learning, writing skills, etc.). Moreover, the instructor is expected to assess the specific opportunities and constraints, e.g. the availability of technical support and equipment, the organisation of an IT training for students and academic staff involved, classroom size, administrative support, etc.

A useful advise to instructors during the course design is to always leave extra time and be flexible whenever using e-learning tools, as technology may go wrong and there may be a need of prompt interventions on the part of instructors to provide quick fixes or adjust the course strategy.

▷ Plan a F2F introductory and final evaluation meeting, as well as an incoming learners' survey regarding their expectations and needs

▷ Balance the course elements between F2F and online tasks and assignment

▷ Seminars/tutorials: provide, whenever possible, a part of the tutorial as a F2F meeting or using synchronous tools (webinars, videoconferencing, etc.)

▷ The use of online or blended lectures and tutorials is an advantage in cases when there is a constrain of university infrastructure (size/ availability of classes)

▷ Carefully consider the time and resources available, as well as potential constraints

▷ Always leave some extra time and be flexible whenever using e-learning tools, as technology may go wrong.

Useful Toolkit Resources:

☐ See **Annex 1 here** for an example of a blended learning activity on course design that may be used when providing a training in blended learning or as an exercise of blended learning course development.

☐ Blending online and face-to-face components, http://www.teachertoolbox.ac.nz/tool/view/category/4

☐ Boyle, T. (2005). A dynamic, systematic method for developing blended learning. Education, Communication and Information, Special Issue on Blended Learning, 5(3), 221-232.

☐ Timus, N. (2013). "Distance Learning as an Innovative Method of Teaching European Studies." In S.Baroncelli, R.Farneti, I.Horga, S.Vanhoonacker (eds.) *Teaching and Learning the European Union. Traditional and Innovative Methods*. Springer Verlag, pp.430-44.

☐ Timus, N. (2015). From Challenge to Advantage: Innovating the Curriculum across Geographic Boudaries. In A. Dailey-Hebert and K.S. Dennis (eds.) *Transformative Perspectives and Processes in Higher Education*. Springer, Switzerland.

During: actual use of the method

As mentioned in earlier sections, the blended learning method does offer more opportunities in the knowledge and skills transfer, as well as higher degree of flexibility in accessing the learning process (time and space), however it also comes with its costs.

The instructors involved in blended learning and online teaching usually report spending more time on course preparation and implementation (see Mihai 2013, more), as well as the need of being flexible throughout the course and intervening to solve various problems that might occur during the use of e-learning environments, for example. It is advisable to have a "support team" of academic colleagues with experience in using blended learning as well as IT staff with whom the instructor may interact, get feedback as well as practical help during the process of course design and implementation.

The use of innovative teaching methods and tools requires suitable instructor guidance regarding the course content, pedagogical strategy, as well as the specific e-learning tools applied. For example, the instructor may use the e-learning environment to post various course content and instructors, but the challenge is to provide sufficient guidance to learners regarding the available course information, to facilitate the access to information and provide sufficient channels for instructor-learner as well as learner-learner interaction and feedback. It is important to 'keep it simple' regarding the design of the course webpage, the amount of information posted, as well as balancing between text content and visual data, external resources, etc.

Student motivation and engagement represent key factors in ensuring the success of the learning process, including the case of blended learning. When using online learning, the challenge of keeping the learners motivated and engaged is more significant than in F2F learning, since the 'distance' between the instructor and learners represents an obstacle for interaction and may lead to the 'feeling of isolation' and higher rates of student failure or dropouts.

The advantage of blended learning is that a well-designed mixture of F2F and online activities and assignments may counterbalance the common problems of the lack of 'human factor' and the isolation encountered in a pure online learning. For example, if the blended course includes a group research assignment, the instructor may choose to have a F2F session at the beginning of the group work, to allow the learners to get to know each other and promote group bonding and brainstorming on their assignment. This may be followed by an online group work, combining self-learning period and research and a collaborative learning period, when the group may work together on preparing a research paper and, if desirable, also a presentation. The presentation may take place again F2F during a final meeting, or via web-conferencing software, bringing back the physical presence of learners and instructors.

The availability and support of the instructor (F2F and online) is crucial for ensuring a successful interaction, providing prompt feedback and ensuring the learners whether they are on the right track. In fact, when the feedback is not sufficiently provided during the online learning, students feel frustrated and isolated. While there is a shift in the instructor's role towards more of a facilitator or coach when using innovative teaching methods, the instructor also is expected to play the role of support person, particularly when engaging with the online learning, and help motivate students. This can be done, for example, by way of posting supportive comments, sharing personal experiences, personal coaching. Also, it is advisable to have schedule office hours, either F2F or 'virtual office hours,' e.g. via Skype, as well as use asynchronous tools, such as emailing, forums, for providing online feedback. 'Silence' periods on behalf of students may be a sign of various problems encountered during the learning process. It is important to get in touch with the students in order to understand their personal situation and potential problems and provide them support.

- Expect to spend more time than during the traditional classroom during course implementation;

- Have a "support team" of academic colleagues with experience in using blended learning as well as IT staff with whom to interact, get feedback as well as practical help;

- 'Keep it simple' regarding the design of the course webpage, the amount of information posted, as well as balancing between text content and visual data, external resources, etc. but provide specific guidance regarding various course components;

- A well-designed mixture of F2F and online activities and assignments may counterbalance the common problems of the lack of 'human factor' and the isolation encountered in a pure online learning and increase student motivation and engagement;

- The availability and support of the instructor (F2F and online) is crucial for ensuring a successful interaction, providing prompt feedback and ensuring the learners whether they are on the right track.

Useful Toolkit Resources:

☐ Video: "Student engagement and Facilitating online interaction": https://www.youtube.com/watch?feature=player_embedded&v=TxzipYOGaoE

Assessment/Debriefing

Feedback and assessment represent important factors in ensuring the success of the learning process. Defining the right type of feedback and delivering it at the right moment allows the instructor and the learners to check the extent to which the learning outcomes are achieved, identify the potential challenges and seek for adequate solutions.

Both the formative feedback (continuous feedback supporting students in their learning) and the **summative feedback**, or the final course assessment, need to be chosen by addressing two core questions: 1.what we need to assess (knowledge, skills, performance) and 2. how do we assess (tools)?

While the blended learning does offer higher opportunities for the transfer of various knowledge and skills, the challenge is to offer prompt and clear feedback and guidance on the side of instructor but also peer students, the lack of which results in learners' feeling of isolation and frustration. (Hara and Kling (2001)

Formative assessment, allowing the instructor and colleagues to follow the student thinking, is a crucial element in blended learning, taking into account the challenge of spatial distance. An efficient strategy is to include feedback mechanisms at the end of each seminar/tutorial, e.g. devote the last five minutes of the F2F class or webinar for group evaluation of the session and suggesting ways of improving it. In case of an asynchronous online seminar, an alternative is to open a forum thread where students and instructors may reflect on their learning experience after each seminar or at the end of specific activities.

Self-reflections and peer-review represent valuable mechanisms for encouraging critical thinking and self-assessment and can be used both in the oral form (discussion) or written form for various activities, both F2F and in the online environments. For example, an online group work may be formally assessed by the instructor based on the final group deliverable, e.g. research report. But it may also be complemented with the formative feedback of peer-review, such as the exchange of comments on first drafts or work in progress using the e-learning tools (forum, wiki, blogs) and/or self-reflection reports, which allow the instructor to assess the individual contributions and learning paths during the process of group work.

Useful Toolkit Resources:

See these further *examples:*
- ☐ **Annex 2**
- ☐ **Annex 3**
- ☐ **Annex 4**

After: feedback and assessment

- Offer prompt and clear feedback and instructor guidance, but also ensure sufficient peer students interaction and feedback, their lack may result in learners' feeling of isolation and frustration;
- Formative assessment, allowing the instructor and colleagues to follow the student thinking, is a crucial element in blended learning, aim at including feedback mechanisms at the end of each course activity;
- Self-reflections and peer-review represent valuable mechanisms for encouraging critical thinking and self-assessment and can be used both in the oral form (discussion) or written form for various activities, both F2F and in the online environments.

Tools and technologies that can enhance...			
	... assessment for development	... the process of giving/ getting feedback	... assessment of achievement
Tools	ePortfolios quizzes (eg. Moodle, HotPotatoes) run quizzes through students' mobile devices Socrative, PollEverywhere, Kahoot students create own questions for their peers PeerWise audio recording eg. Kaizena allows you to insert audio comments for individual users of Google docs	forums screencasting (eg. Jing) audio recording Turnitin (GradeMark, PeerMark) see Unitec's Turnitin Moodle course to get started MyPortfolio	MyPortfolio productive tools eg video, Powerpoint, posters Safe Exam Browser examples of iPad apps that support assessments - Sports dept at NorthTec, Whangarei

Source: http://moodle.unitec.ac.nz/mod/page/view.php?id=229879

Useful Toolkit Resources:

- [ ] Online Assessment: http://www.cshe.unimelb.edu.au/ assessinglearning/03/online.html#consider
- [ ] Leask, B. (1999). 'Issues in on-line delivery: quizzes and discussion groups', University of South Australia. www.unisanet.unisa.edu.au/flc/pdonline/ Discussions_and_quizzes_materials.doc. Accessed 10/12/01
- [ ] Morgan, C. and O'Reilly, M. (1999). Assessing Open and Distance Learners. Kogan Page, London.
- [ ] University of South Australia, (2001).www.unisanet.unisa.edu.au/flc/pdonline/ IssuesinOnlineAssessment.doc. Accessed 10/12/01
- [ ] Ocker, R., & Yaverbaum, G. J. (2002). Collaborative learning environments: Exploring student attitudes and satisfaction in face-to-face and asynchronous computer conferencing settings. Journal of Interactive Learning Research, 12(4), 427-448.

Tips for using the blended learning

Tip 1: Define the 'spine' of your blend, the core elements of your blended learning approach, in accordance with your learning objectives, in order to

Tip 2: Conduct the need's analysis of your learners' audience, for example a survey of the registered learners regarding their background knowledge on the topic, their availability (time and space), their expectations.

Tip 3: There is no magic formula, but tailor-made blend for each course. Design your course content and learning approach according to the main types of **personas**, i.e. the typical learners profiles from your audience (e.g. beginners, theorists, professionals, etc.) see the Blended learning activity. The aim is to appeal to as many of these **personas** as possible.

Tip 4: Asses the constraints: what are the main obstacles in implementing the desired blended learning approach, starting with the technical support and equipment, the classroom size, the administrative and financial support, etc.

Tip 5: When choosing specific face-to-face or e-learning elements of your blended learning, always ask WHY does your course benefit from them, e.g. knowledge or skill transfer, cost-effective, learner's flexibility, etc.

Tip 6: Balance between formal learning (e.g. knowledge transfer), **informal learning** (on-the-job learning or learning by doing and skill development), and **feedback** (focusing on individual learner's needs, coaching, mentoring)

Tip 7: Plan your assessment strategy, how will you know that the course objectives and learner's goals were achieved, ranging between ongoing assessment and feedback and formal assessment (e.g. formal accreditation or qualifications)

Tip 8: Test your blended learning elements, whenever using e-learning, it is highly advisable to organise test sessions that will introduce your learners to the specific tools and learning methods and provide assistance. Also, **always try to estimate the time required** for each face-to-face or virtual learning components and offer enough flexibility with the online learning, since there is always a chance of something not going as planned.

Tip 9: During course implementation, be ready to re-design and adjust your blended learning approach whenever needed. Be flexible in implementing your original course design and have some alternative scenarios in mind in case if things get out of control.

Tip 10: Have a support team available to help with course design and particularly course implementation (technical expert, academic experts, tutors, administrative staff).

Glossary

Active learning pedagogy – Active learning is a model of instruction that focuses the responsibility of learning on learners. In order to learn, students must do more than just listen: they must read, write, discuss, or be engaged in solving problems. In particular, students must engage in such higher-order thinking tasks as analysis, synthesis, and evaluation. Active learning engages students in two aspects – doing things and thinking about the things they are doing. Examples of active learning are: group/class discussions, debates, games, Problem Based Learning exercises, etc.

Asynchronous e-learning - usually takes the form of a learning platform, called Virtual Learning Environment (VLE) or Learning Management System (LMS).

Blended learning - a hybrid learning approach that combines different elements of face-to-face (F2F), or traditional classroom, and online learning.

Debriefing - an open discussion with the students (and fellow tutors) on how the course went and to what extent the learning objectives were achieved.

Deep learning - the interactive learning process in which students are examining new facts and ideas critically, tying them into existing cognitive structure and making numerous links between ideas, usually focusing on a central problem/puzzle.

Digital literacy - a "by-product" of learning (and indeed teaching) online, the awareness about one'a digital footprint and the reflection on how one relates to technology in personal and professional life.

Distance learning - a mode of learning delivery, having as a main characteristic the distance between the teacher and the learners, often linked to specific target groups who cannot, for various reasons, be present on campus.

E-learning – a *complex, integrated learning system* that refers to the actual tools and equipment used to support teaching (software and hardware), but also to the skills necessary to develop and use these tools effectively, to the pedagogical understanding of how the tools can be used appropriately.

Feedback - a dialogue or interaction between teacher and learner aimed to maximise student potential at different stages of learning, raise their awareness of strengths and areas for improvement, and identify actions to be taken to improve performance.

Game-designer - the person (or people) who set up the simulation's objectives and rules, usually also the game-leader.

Game leader - the person on the ground for the actual running of the simulation (the **game-play**).

Knowledge construction – based on the constructivist rationale, knowledge is perceived as context- dependent and should be constructed; instead of 'just' transferred passively from professor to student, students are *actively* involved in constructing knowledge by working individually or in a collaborative way to work on a specific task or problem.

Podcasts or web lectures - recorded lectures that have the advantage of being played back.

Problem Based Learning (PBL) is an active learning pedagogy in which students are *actively* involved in constructing knowledge while being confronted with a certain trigger (the "task", "problem" or "assignment"), which has been designed by the instructor.

Reflection - can take different forms, ranging from *self-reflection* (analysing one's own learning process) to *peer review*, whereby one offers and receives comments on their work.

Self-directed/paced/regulated learning - an increase in knowledge, skill or performance pursued by any individual for personal reasons employing any means, in any place at any time at any age.

Simulation - an active learning pedagogy that offers the opportunity to 'live the world' of the phenomenon that is studied, and it is in this 'living' that learning occurs in a profound way that engages students by requiring them to develop a personal model of that 'world' and how to engage with it.

Social media - computer-mediated tools or internet applications that allow people to create, share or exchange information, ideas, and pictures/videos in virtual communities and networks.

Synchronous e-learning – a delivery mode of e-learning which brings about the "live", real time communication, and thus increasing the interaction, taking the form of webinars (online seminars), online conferencing or instant chat (with audio and video options).

Tutorial – a form of interaction and learning, which, by contrast to a more traditional seminar, is based on a small group of students and a **tutor** (instructor), it is specific to PBL method.

Webinar – synchronous e-learning tools, live videoconferencing that can connect teachers and students from various universities (and countries) in real time, allowing for exchanges of ideas and experiences without involving any travelling.

Wiki - a platform for online collaborative work, very useful coordination and collaboration tool to work together on group projects and assignments, as well as for collaboratively building a knowledge repository to support the learning process.