ENTRANCE
TO FUTURE
EDUCATION

Innovating Teaching in Higher Education

a manual for academic teaching staff

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Welcome to the Entrance to Future Education Project

The Entrance to Future Education (EFE) project has been led by an active team of partners right from the start. We began our work based on a firm belief that something needed to change in higher education, although we didn't really know where to start. One aspect upon which we did agree was that the teaching practices employed by many universities are far too often based on what can be called a factory education model. In this type of setting, students sit passively in rows and simply repeat back what they have heard or read. Sometimes there is a degree of analysis but often this is more to do with analysing the process rather than analysis as a way of making sense of what is being learned. Many researchers have shown that the reasons why countless students drop out of university every day are either because they find university boring or because university is not relevant to their lives.

At the same time, many people from the business world complain that students leaving universities and starting work for the first time lack the relevant skills and competences that they need to perform well in the workforce. Our goal, and the primary goal of our project was to try to redress this situation and to offer a counter-balance to this type of passive teaching in universities, to make learning more relevant, innovative, participative, engaging and eventually more enjoyable.

This is a very large and complex challenge, so as a project team, we had to choose what kind of activities and project goals we were going to adopt in order to create a realistic and worthwhile project plan.

As we were not going to be able within the confines of a short-term European project to change infrastructure or to create new study programs, we decided to focus specifically on the learning process within the courses that are being taught. We knew that there are of course interesting and exciting courses being delivered every day in universities all over Europe. We also knew that many teaching staff have developed excellent methods and approaches to innovate the teaching and learning process within their courses. This led us to the mission of collecting these good practices in order to share them with other academics and teaching staff.

Of course, as with every project, we already had our schedule of activities laid out in the project proposal and so we used this schedule to guide our activities. But at the same time and as much as was possible, we listened at all our target audiences: students, academic teaching staff and businesses.

We did this through focus groups that were organised with students in order to hear their opinion about the courses and academics with which they were confronted. We asked them to tell us what kind of methods and approaches from their courses they liked best. We teased out what they, and we, meant by innovative teaching methods as none of us were really very sure what this term really meant, were such methods something that could be applied for 1 month or 1 year? and what we discovered was that what we were looking for were simply methods that engaged and excited students. This became the driving force for our project.

We then tried to figure out why certain academics and teaching staff were popular with students, why were the methods and approaches employed by some of them more popular than others? Their response was often that they simply weren’t sure why this was as it is, they said: “I don’t know. I just do my job”.

Of course, we had other questions and after lots of detailed interviews, we discovered many of the "tips and tricks" in the form of methods and approaches that make the courses given by some academics and teaching staff more attractive to students than others. Our experienced team of experts then collected what we considered to be the most innovative of these methods and approaches from our colleagues and from other academics recommended by different universities in Europe.

We interviewed businesses as well. We asked them what kind of skills and competencies universities should be helping students develop and used what they told us to inform and shape the work that we carried out. We realised than many of the skills that people need in their working life are simply not addressed in university. For example, if you look at a simple random job advertisement, you will see that one of the first skills a company requires is that of time management. But how many students studying maths, IT or biology in university are actually acquiring time management skills? Students are tested in their knowledge of maths, but they don't have an exam in time management. However, this is what they need to successfully enter the job market.

So, one of the main drivers in our selection process was how well specific methods and approaches helped students develop 21st century skills as defined in the World Economic Forum as well as elsewhere.

By the end of the project we have validated the effect of many of our methods. We found out that when teaching staff applied one of the methods or approaches that we have specified, more than 80% of students described themselves as being more motivated and engaged after the lesson.

This leads us to the conclusion that we have reached the goal of our project. By applying our methods and approaches, teaching staff can not only help students to develop 21st century skills and better remember what they have learned, but they will also will be more engaged and excited in the learning process, as well as more motivated and inspired by what they have learned within their courses.

Anda Paegle, EFE Project Coordinator, University of Latvia

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Introduction

The Entrance to Future Education (EFE) project is a two-year project involving universities and organisations in Latvia, Poland and Belgium supported by the European Commission's Erasmus+ programme. The main purpose of EFE is to highlight teaching methods that activate, motivate, inspire and excite students and help them to develop the skills required in the 21st century labour market. By doing this we hope to contribute to the innovation of academic teaching practice by promoting student-centred methods and approaches. EFE is implemented by a consortium of four partners: University of Latvia, UC Leuven-Limburg, The Media & Learning Association, and the University of Humanities and Economics in Lodz.

This handbook presents the main output by the partners and provides a resource of 40 different methods and approaches that can be applied in European higher education institutions. It is aimed at both new and experienced teaching staff in universities and colleges interested in applying new methods and approaches in their teaching. The contents have been compiled through our own contributions and research and by interviewing students and academics in focus groups. These methods and approaches have been piloted and enhanced by the partners as part of the second year of project activities and this manual contains examples of how many of the methods and approaches have been taken up by partner and other organisations.

We've already received positive feedback from a number of universities and everyone interested is welcome to download our collected teaching methods from the project website to make the study process more exciting.

Strategic approaches

In this first section of the handbook, we have described a number of different approaches or strategies which can be used to innovate practice. They usually are best applied to a whole course, a module or a semester and generally require the engagement of all staff involved in that specific course or module.

1

Design Thinking

Introduction

Design thinking is usually composed of several clear steps:

- recognising the background of the problem (research)
- gaining insights (defining)
- proposing many ideas and solutions and finally deciding on one (ideating)
- creating a prototype and trying it with the users (prototyping)
- re-iterating/improving and evaluating the product (testing)

Design-thinking is essentially a group work whereby the group first decides on the problem/product to be solved/designed. The group consists of all users involved.

The aim of the Design Thinking approach applied in higher education is to obtain a balance between academic rigour and practical relevance. Students are designing a solution to the real problem outlined at the beginning of the course. Implementation of the solution is supposed to work and improve the situation.

During the process, your role as teaching staff is to facilitate the process and to be a mentor in the first phase, providing a framework and pointing out topics and issues to be considered in specific areas. In the second phase you should act as a coach, stimulating discussions and the production of creative solutions, making connections and monitoring deadlines and outcomes. If a new idea emerges during the process, you should follow the group's expectations bearing in mind that an open approach is always necessary when engaged in design thinking.

In this approach, students try to find creative solutions to a specific problem or challenge. The main outcome is a specific solution/project/product addressing those (users) affected by this problem or challenge and considerably improving the situation

Aim	To support students to design a prototype and implement a solution in real life.
Target group	Students of any field of study Teaching staff Administrative staff
Intended learning outcome	
• Enhanced skills and experience in solving real life issues with the use of a Design Thinking approach	

- Better ability to collaborate and function in teams
- Enhanced skills in communication and decision making
- Increased sense of personal and social responsibility and citizenship – local and global

Description

Design-thinking is essentially group work whereby the group first decides on the problem/product to be solved/designed. The group consists of all users involved and should be multidisciplinary.

Start with simple steps in which the most important elements are:

- Ensure an atmosphere with a lot of empathy (trying to walk in other people's shoes). It can be done in many ways – an experienced teaching staff member can facilitate a workshop or use tools like 'Personas'. A persona is usually understood to be a representation of the needs, thoughts and goals of the target user. Personas are designed to help you to empathise with individuals who might use whatever it is you are designing. The aim is to understand the users' emotions, needs, thoughts and motivations. With mindfulness and experience, anyone can become a master at empathising with people. If you use personas then you will need to prepare so-called 'persona' cards giving a short profile or biography of the personas you are using.
- As part of the process of empathising with the target users, students need to see their world, appreciate them as human beings, understand their feelings and to then communicate their understanding. Students need to observe users in their natural environment or engage with them in interviews.
- It is important to carry out detailed research and analysis of the problem/issue and solutions applied thus far.
- Students should make a specific work plan defining ways of acting and deadlines for themselves.
- Students should then brainstorm to gather all possible ideas.
- Students can start to build on the idea by drawing on a whiteboard/blackboard/flip chart (whatever is accessible).

You then need to create a prototype or set of prototypes of the different solutions possible.

- build/create/make a prototype of the solution/product/programme and immediately try out how it works. A prototype should be makeshift in nature, the less solid, the better, as it is meant not to be the final version. The end users are supposed to evaluate it many times.
- Re-iterating (repeating, making again, improving) the design process over and over until reaching a satisfactory conclusion.

Preparation	The teaching staff member may or may not provide topics and issues to be solved. They may also need to prepare 'persona' cards if these are to be used.
Required resources and equipment	Materials on applying a Design Thinking approach are widely available and can be useful. See the additional information section below for some useful links. Tools for writing and drawing should be made available, the work can also be done online using easy to access tools like Pinterest, Google+, Facebook.
Success factors	This approach requires a high level of engagement on the part of students as well as their willingness to solve a problem. It also requires a considerable level of passion and involvement on the part of the teaching staff member.
Advantages	In line with a "Learner centred education" mindset, Design thinking helps to bring focus back to the learning individual's needs. Applying Design Thinking methodology develops creative problem solving skills which are crucial in the contemporary job market.
Disadvantages	This approach may require too much input from teaching staff who have only a limited amount of time and resources.
Additional information	Here are some examples of projects you could run using a Design Thinking approach: designing a new learning space, designing a cultural event , working on educational curriculum The idea of user experience UX design is well described here. This toolkit contains a Design Thinking process overview, methods and instructions that help you put Design Thinking into action, and the Designer's Workbook to support your design challenges. More information about personas is available here and you will find useful templates for creating personas here and here. Here you will find a Design Thinking Crash Course, this course is also useful.

Example

In the University of Humanities and Economics in Lodz (AHE), Elżbieta Dul-Ledwosińska has been using the Design Thinking approach in various courses on different subjects. The really fine thing that she finds about Design Thinking methodology is, that after recognising your group's ongoing problem, you can design an solution while learning and having fun at the same time.

Here are the steps Elżbieta takes with the class in applying this approach:

1. First she asks a group to define a problem they are willing to solve or a solution to be developed. Usually students work on individual projects, but you can also use the methodology with a group of co-workers in order to improve the situation within the institution. This takes about 15 minutes.
2. Elżbieta asks participants to carry out research on how this problem has been tackled thus far. They can discuss this aspect in the group, browse the Internet, ask other people and then share what they have found out. It's up to you, how much time you want to give them on that. It can be 30 minutes including a discussion within the group.
3. The next step she asks them to take is to empathise with their clients i.e. the people for whom the solution is being developed, to get to know their needs, goals, dreams. She asks them to be good observers, to notice unspoken wishes as well as those that are spoken and to write them down. For this, they have to really talk with a real, living person. Empathy maps and persona cards are the necessary tools here. A solution designed without empathising with a client/user may be quite brilliant – but at the same time be a waste of time, because nobody wants it.
4. Now it's time to brainstorm ideas for possible solutions without excluding anything, a creative session that includes the possible and the impossible. Have fun with that! Elżbieta asks students to come up with some solutions.
5. In step 5 participants decide on one solution and make a prototype. Elżbieta asks them to draw, build, create a prototype for everybody to confront, try, discuss and challenge. The more make-shift the prototype, the better.
6. She asks participants to test the solution, improve it, test again, improve and so on. In this part you may only hear from them about a further story, after they go and use it in their environment.

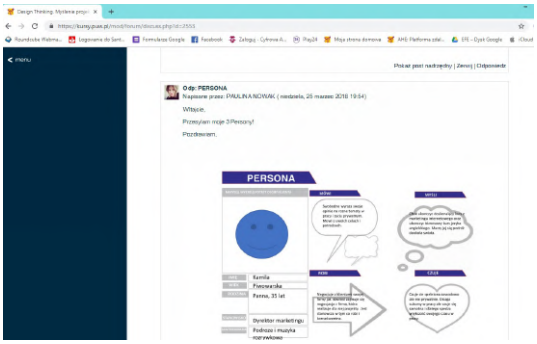
Here you have examples of how differently students responded to the tasks and what tools and devices Elżbieta and her colleague academics use to obtain the expected outcomes. The commonly presented visual materials regarding Design Thinking methodology are of high design standards, which may discourage people from using this approach, as they are not able to produce such materials themselves.

Design Thinking in Business open online platform course which was run with 11 students.

The challenge: **Improving relations with clients**

After working according to Elżbieta's instructions a student submitted filled in and analysed persona cards on the e-learning platform with her conclusions about the clients. Made remotely, at home, on the screen, with the computer program.

This illustrates **STEP 3 – empathising**



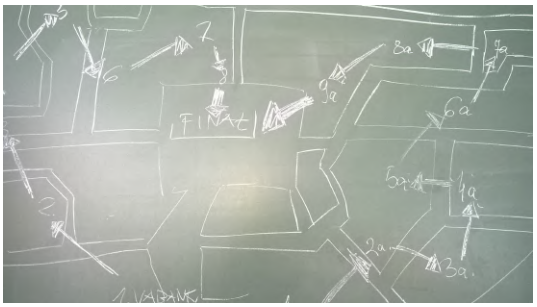
Visual communication, Culture study faculty

The challenge: **Idea and structure of a culture event in the space of the city**

This illustrates **STEP 4 – brainstorming, gathering ideas**

This is a prototype of the event (a map of the old city with the route and attractions/task points marked on it.
Students were planning culture events. This was made on a blackboard with chalk.

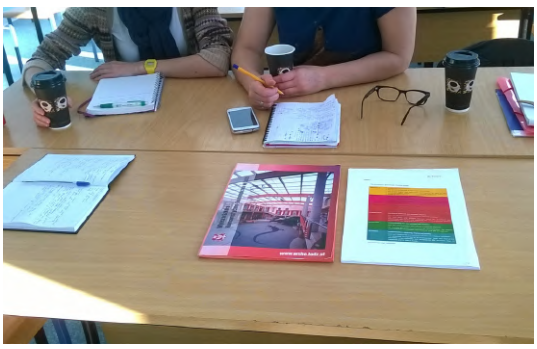
This illustrates **STEP 5 – prototyping**



Education through art methodology course, Pedagogy faculty .

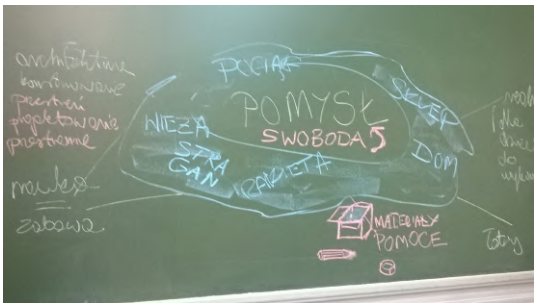
The challenge: **Idea and content of a creative, innovative class**

This illustrates **STEP 4 – brainstorming, gathering ideas**



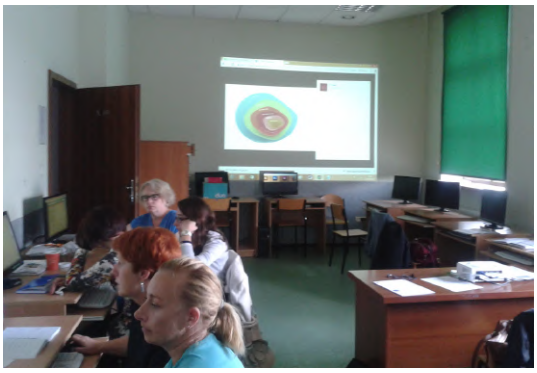
This is a prototype of the content. Some ideas has been written, colours marking the category or importance. As you can see not every person is handy with drawing tools and willing to visualise but still a colourful, nice image was created helping to organise future elaboration. Made on a blackboard with coloured chalk.

This illustrates **STEP 5 – prototyping**



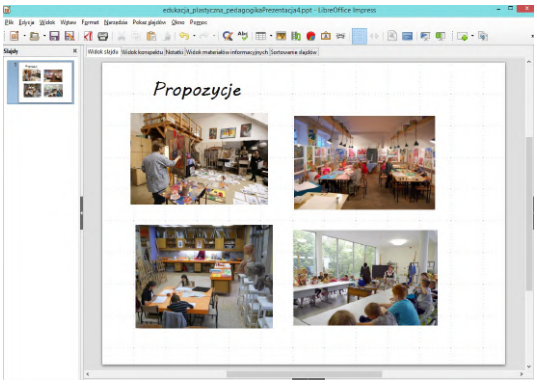
Teachers, postgraduate study participants, were designing solutions on: **how to reorganise, adjust learning spaces** at their schools to make users: students, teachers and parents happy. They were carrying out research together, looking at different interiors.

This illustrates **STEP 2 – researching**



After analysing many different learning spaces a brainstorming generates some ideas

This illustrates **STEP 4 – brainstorming, gathering ideas**



The aim of the Design Thinking approach applied in higher education is to obtain a balance between academic rigour and practical relevance.

A makeshift prototype was created with the use of simple programs, ready-made images from the Internet resources on the computer screen, during the class.

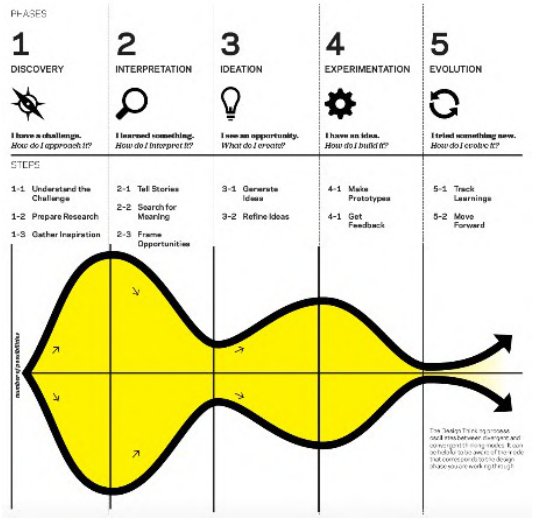
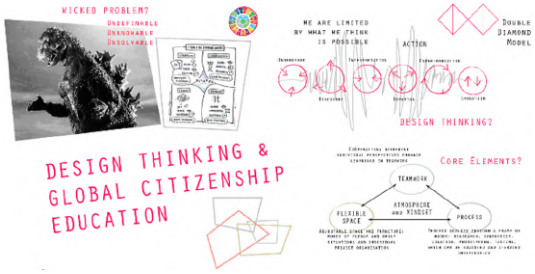
As this material was never intended to be published, some of the images may break copyright restrictions.

This illustrates **STEP 5 – prototyping**

Example

In UCLL, Hannelore Verstappen has been using the Design Thinking-approach in the course **Geography Education**.

Here are the steps Hannelore has taken in applying this method:

First, she elaborated a framework on the history of **Geography Education** and its contemporary national and international evolutions	 Source: https://designthinkingforeducators.com/toolkit/
Next, she asked students to define a research question concerning the new Flemish curriculum starting from a vague notion or idea about a completely new curriculum objective (hypothesis) they 'invent' (imagine), e.g. to work with pupils on plastic in oceans	

Then she asked students to work on ‘divergent thinking’ using brainstorming methods:

- students explore this vague idea about their new objective through an (inter-) national literature research, by interviews with teachers and pupils and other stakeholders in education in order research the value of this idea or other ideas.

Hannelore finds it important that their hypothesis is still open to change, which is an important difference with common research. Another difference is the empathy with relevant actors in the area. This way actors have more influence on the research and show more commitment to the process and results.

- Students could divide the research tasks and bring them together in a group. They map stakeholders and their thinking in order to identify needs, problems, themes…
- Students refine and adapt their vision on their notion about their new curriculum objective in order to reinforce and elaborate their understanding and insights in their invented final objective.
- After this phase, she gives space to ‘convergent thinking’ through mapping and visualising input from the previous phase (e.g. with coloured post-its): she asks students to define a concrete, validated, non-existing final obtainment goal for geography education.
- Again, she introduced ‘divergent thinking’: Students explore relevant materials, methods, learning activities, theories, manuals, … in order to design a set of teaching-learning activities ready to use in order to reach the ‘invented’ curriculum objective
- Students tested this learning activity prototype in a real life class situation
- Students modified/altered their set of learning activities based on the results of their experiment.
- Students kept a logbook and delivered a finalised set of learning activities for pupils to obtain the new objective.

Hannelore coached the students through the phases and integrated appropriate methods supporting the different phases of Design Thinking. She also presented crucial reference frameworks throughout the course.

As assessment method for this work, she assesses:

- The process students assume based on different deadlines throughout this process. This is important for the work not to be done too much at the end. (60% of the marks)
- To a lesser extend the product they deliver (40% of the marks)

2

Creative Project

Introduction

Students design an activity which solves a problem outlined during the class. They are supposed to implement the final outcome of their work. Examples of final outcomes include:

- an article to be published in a newspaper or magazine
- setting up dedicated website with research outcomes: ranking list of eco friendly cars
- formulating bids and drafts for citizens' budget in a city
- providing free training for companies
- providing activities for children
- producing a leaflet
- producing a theatre performance

One of the most valuable aspects of this approach is that it is based on real-life challenges or problems. Students are expected to think of creative solutions to the problem. It is also important to find some subjective outcomes. i.e. to identify what we have achieved by this project for other people and for ourselves.

Aim	To increase the quality of teamwork and students' ability to carry out a real-life project.
Target group	Students of any field of study
Intended learning outcome	
• Enhanced ability to carry out project work • More able to collaborate and function in teams • Enhanced skills in communication, decision making • Increased sense of personal and social responsibility and citizenship at local and global level	

Description

Follow the steps:

1. The staff member begins by giving a talk about a specific problem or challenge in, for example, the area of work/labour/job – the specific challenge or problem could be about finding a job, job migration, mobbing or burnout.

2. Students then team up, decide on the specific problem or challenge they want to tackle, and make a work plan defining what they will do and agreeing deadlines for themselves.
3. Students then try to find creative solutions to the problem, searching for solutions that are new, non-standard and which are of benefit to those affected by the problem/issue.
4. Students carry out their plan in practice.
5. Students share the results of the project with all the group.
6. Students evaluate the project.

During the process, as task leader, you act as a mentor in the first phase, providing a framework, topics and issues to be solved in the specific area. During the second phase, the role of the teaching staff member changes to one of coach, stimulating students to question, to be creative in their solutions, helping them to make connections and to overcome any possible obstacles.

Preparation	The teaching staff member provides topics and issues to be solved in specific subject areas.
Required resources and equipment	Based on research and knowledge of current issues in the specific field, online work.
Success factors	This approach requires a high level of engagement on the part of students as well as their willingness to learn independently. It also requires a considerable level of passion and involvement on the part of the teaching staff.
Advantages	Creative projects increase the quality of teamwork and students' ability to carry out a real-life project.
Disadvantages	It can be challenging for students to share work and be responsible for their part.
Additional information	

Creative projects increase the quality of teamwork and students' ability to carry out a real-life project.

Example

In the University of Humanities and Economics (AHE), Kamila Witerska has been trying out the Creative Project method with her course on Early Development Support. The specific topic she chose for the practice of this method was Sensory Integration. The goal of the project was to create a sensory path with children that could be used to help children develop their sensory skills.

Here are the steps Kamila takes with the class in applying this method:

Sensory path for children

1. Kamila first gives a problem based lecture on the topic of sensory integration.

2. Students then team up, decide on a specific problem related to the topic and make a specific work plan defining ways of acting and deadlines for themselves. In this case, they decided to create a sensory path for children to explore different sensory experiences in the classroom

3. Students carry out the project in real life by creating a sensory path with children. The children play in the sensory path developing their sensory integration.

4. Students record the full trajectory of the project from start to finish and present their results to the rest of the group.

3

Art-based Scenario Writing

Introduction

This is an approach that can be used for students who need to master the skills of art based scenario writing, run by the teaching staff member experienced in pedagogical methodology. The approach aims to enable students plan an educational curriculum involving art projects, supporting education in different fields and to conduct classes on the topic.

The basic idea behind this approach is to connect art to education and it can be realised in different ways which include formulating educational projects connecting art and education, developing educational scenarios based on art topics and/or conducting art based classes.

Aim	To foster the knowledge and skills necessary to develop learning scenarios involving art
Target group	Pedagogy students
Intended learning outcomes	
• students' creativity is stimulated • increased student's interest and ability in designing process-oriented art projects • increased interest and skills in developing art-based curriculum • students have acquired several basic concepts of aesthetic education • learned the basics in active art participation applied to education • learned methodology of learning through art	

Description

Art can inspire imagination and invoke deeper learning. Most of us are interested in some fields of art: music, theatre, visual arts, architecture etc. Art-based scenario writing refers to those personal passions/hobbies. The specific goal is to teach subjects and topics in a way that is inspired by art.

At the start of the course, the staff member presents an art object, an art work, musical composition, a part of a spectacle or film and asks the students to write a short scenario involving this particular artistic endeavour. The aim of the task is to introduce art as a metaphor with which issues from other subjects can be explained to students. Students analyse and discuss scenarios and opportunities for using them to teach other subjects (science based, philology, pedagogy etc.) where art can be a starting point.

Students are then asked to prepare a plan for the set of tasks, possibly for the whole course involving the art endeavour of their choice. They should then propose and describe a task/exercise based on art and then write and consult scenarios individually.

Once this is accepted, the students should then go ahead to conduct part of the art project and document the process (this includes working outside the university and finding a group willing to participate).

Finally students need to present their outcomes and evaluate them.

During the application of this approach, you as a teaching staff member need to provide a framework, pointing out topics and issues to be considered in the curriculum and stimulating creative ideas production.

Preparation	Some preparation work on the part of both teaching staff and the students is expected in relation to the choice of art object, subject or event.
Resources and equipment	Internet based materials during the course and consultations with the teaching staff member. Lesson plans shared by museums and galleries, photos of art objects, scenarios available online.
Success factors	A key factor influencing the success or otherwise of this approach is the extent to which the teaching staff are passionate about art.
Advantages	This approach can dramatically change the dynamic of the classroom, engaging all students and helping them to recognise and develop the creativity within themselves.
Disadvantages	This approach assumes an interest in some field of art. It will therefore not be an attractive approach to adopt by teaching staff with little interest in art.
Additional information	Upcycling as an inspiration for creating sculptures during classes. This booklet describes 18 working methods for educators in museums or other heritage institutions This is a showcase of recent initiatives connecting to nature through art. Here you will find ideas on art and music learning, interactivity with real-world relevance. Here is an example of learning scenarios related to musea.

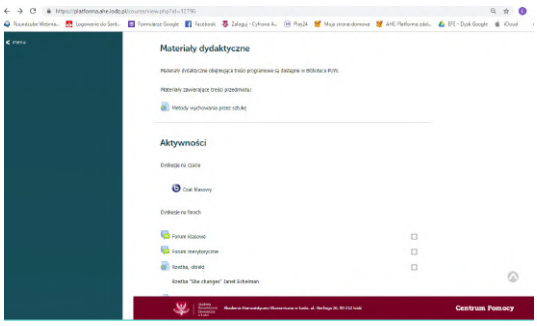
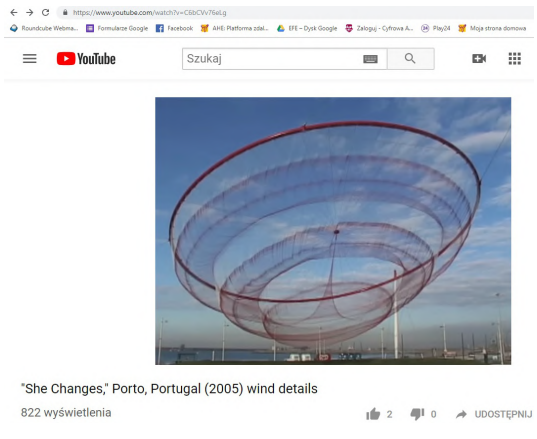
Example

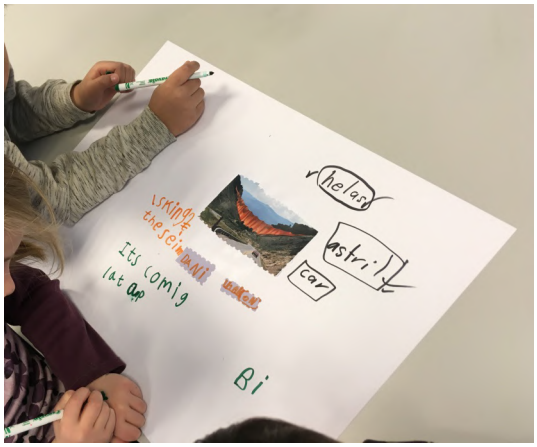
In the University of Humanities and Economics in Lodz (AHE), Elżbieta Dul-Ledwosińska has been using the Art-based Scenario Writing approach in her course on Education Through Art for the Pedagogy Faculty which is run with approximately 20-30 students each year.

In this example, the description refers to a class of students supported with AHE's e-learning platform.

Here are the steps Elżbieta takes with the class in applying this approach:

1. First she invites participants to recall their best experience with art classes when they were at school so they can use the same approach when teaching.
2. In the next step, she presents an example of artwork, e.g. a painting, a sculpture or an installation. She encourages students to visit the web pages of museums and galleries in search of inspiration. In this example, she presented a sculpture/instalation entitled "She changes" by posting a link to You tube where a flowing, moving object can be seen.
3. Elżbieta asked the students to write down a short scenario for the class on a chosen subject: maths, physics, biology where the art object might be a starting point for discussing topics related to this subject. Students shared and discussed inspiring ideas.
4. Then she asked students to write the scenario for a sequence of workshops, classes where art is an element of a scientific lrarning experience and to run at least one class with real people and submit the related documentation. This was their final project which was then assessed at the end of the course.

The task is given on an e-learning platform where the students are given the task and materials are shared.	
Examples of art objects are easy to find and plenty of inspiring videos are available on YouTube. This is an image from the video clip that she linked to on the platform.	

Pedagogy students plan their scenarios mostly for working with young children. They submitted a range of interesting documentation in this experience as they live and work in different places including some students who live abroad.	
Scenarios, photos documenting their work were placed on the forum, allowing everybody to share good practices at the same time, like this example sent by a student emerging from a class inspired by land-art.	

Art can inspire imagination and invoke deeper learning.

4

Play projects

Introduction

Project-based learning is a dynamic approach to teaching in which students explore real-world problems and challenges, simultaneously developing 21st Century skills while working in a small collaborative group. Play Projects is a teaching approach where learning is affected via problem solving. Play Projects are most successful in practical classes. Informational, research, creative and applied projects can be carried out using this format. Play Projects allow students to reflect upon their own ideas and opinions, and make decisions that affect project outcomes and the learning process in general. The final product results in high quality, authentic products and presentations. This approach is suitable for small and large groups.

Aim	To enhance problem-solving potential with creative, analytical and critical thinking skills
Target group	First and second year students.
Intended learning outcomes	
• effectively solve problems/complex professional tasks leading to appropriate and profitable decisions • deductive reasoning drawing conclusions from given information.	

Description

In a semester-long research project for a course, the teaching staff member establishs the research problem and assigns students distinct roles within their groups: one student is responsible for initiating and sustaining communication with the rest of the group, another with coordinating schedules and organising meetings, another with recording ideas generated and decisions made at meetings, and a fourth with keeping the group on task and cracking the whip when deadlines are approaching. The instructor rotates students through these roles, so that they each get practice performing each function.

Students are split into two groups. The groups compete against one another to design a product/to solve a problem etc. by applying a set of given science principles and working within budgetary and material constraints. The fun and intensity of a public competition encourages the team to work closely together to create the best design/solution possible.

At the end of the semester students publicly defend the appropriate and profitable solutions that they have developed.

Preparation	Define a research problem.
Resources and equipment	Not necessary.
Success factors	To work successfully in groups, students need to learn how to work with others to do things they might only know how to do individually, for example to assess the nature and difficulty of a task, break the task down into steps or stages, plan a strategy, manage time. Students also need to know how to handle issues that only arise in groups, for example how to explain their ideas to others, listen to alternative ideas and perspectives, reach consensus, delegate responsibilities, coordinate efforts, resolve conflicts, integrate the contributions of multiple team members, etc.
Advantages	Provides high activity. Design skills are developed and the specialists will be more flexible and efficient in solving complex professional tasks in the future.
Disadvantages	Time consuming. May be difficult to bring all group thoughts together in agreement.
Additional information	This article by Yakovleva, O.N., Yakovlev, E.V. in 2016[i] provides information about interactive methods of training, which encourage interest in the profession and promote the efficient acquisition of training materials On this link hosted by the Eberly Center at Carnegie Mellon University you will find Information about best practices for designing group projects and successful work in groups.

Play Projects allow students to reflect upon their own ideas and opinions, and make decisions that affect project outcomes...

Example

In Latvia, Līga Valinka has been using the Play Projects approach during her course on **Mentoring** which is run with 8 students.

In this example she used the approach to teach students about burnout syndrome.

Here are the steps Līga took with the class in applying this approach:

1. She first gave students the task to work on a theme “burnout syndrome” – identifying the main reasons for burnout, risk groups/professions, how to prevent burnout and what to do in the case of burnout.

2. Students were split in 2 groups. They decided on their roles – who will be the leader, the coordinator, who will take minutes of the meeting, who will present the results in the end, etc.

3. At the end of the semester, students presented their results and suggestions to the other group.

Design skills are developed and the specialists will be more flexible and efficient in solving complex professional tasks in the future.

5

Flipped Classroom

Introduction

The idea of 'flipping' the classroom has been around for several years. Essentially it means adapting what is done traditionally in the lecture theatre – one way transmission of knowledge through lectures – and making the lecture content available to students to either watch or read in their own time and as preparation for the class. You then use face-to-face classroom time for active learning opportunities where the emphasis is on higher-order cognitive skills such as the skills of analysis, problem-solving and evaluation. Much of the supporting literature suggests that 'flipping' the classroom in this way supports deeper learning, is a better and more efficient use of increasingly dwindling resources and helps students achieve a far more comprehensive understanding of the subject matter.

Aim	The aim of this method is to free up precious class time to enable students take part in more student-centered learning opportunities, such as active learning, discussions, problem-based learning, and other forms of interactive group work and peer instruction.
Target group	The Flipped Classroom approach can be applied across any discipline and learning level. It is however an approach that is best considered at course level rather than at the level of an individual module or lesson as it requires quite some effort on the part of the teaching staff to adapt their learning practices and procedures and for students to fully benefit from such an approach.
Intended learning outcomes	
• More efficient use of teaching resources, • Students are more engaged in discussion and collaborative activities with their peers enabling them to improve their higher order skills such as analysis, deduction, evaluation, problem-solving….	

Description

Begin by considering the overall design of the course with the other members of the teaching team including all technical support staff. Identify the elements that constitute one way transmission of knowledge – normally these are lectures and separate these from those where real-time interaction is required, e.g. tutorial sessions, group work, mentoring etc.

Prepare the lecture materials as either reading materials or recorded lectures in formats that are easily accessible to your students and in manageable content 'chunks' that match the structure and format of the overall course and the content. Use the available face-to-face time normally spent on lectures for the types of activities where interaction is required, considering the different

requirements of student project work in groups, or individual student/tutor and student/student interaction in order to prepare the face-to-face time appropriately.

Remember to build in regular evaluation opportunities to assess how well this approach is working and to finds ways in which your approach can be improved.

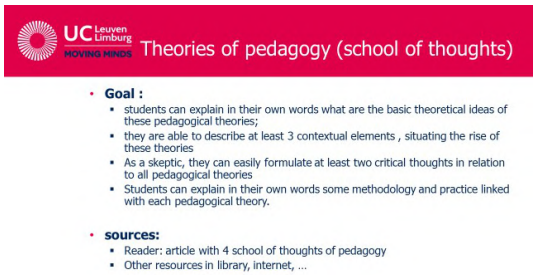
Preparation	Planning and preparation are a vital component in applying this approach so best to apply to a full course and well in time taking into account your and the students' time and resources.
Resources and equipment	Video recording, editing and storage facilities are a requirement if lectures are recorded. If making the content of your course available as reading materials, consider enlisting the help of someone with lay-out and print publication expertise in order to make the materials as self-explanatory and effective as possible.
Success factors	The degree to which the design of the course is reconsidered in its entirety in order to adopt this method is a factor in its success. Simply making reading materials available or recording lectures and putting them online is usually not enough, teaching staff need to review all elements of their course and consider how best each can be delivered using a flipped approach.
Advantages	This approach can result in a far better use of the teaching staff's available time with class time used more productively and effectively for collaboration and interaction.
Disadvantages	There is a danger that students simply do not take the time out of class to read materials or watch pre-recorded lectures. One way to overcome this is to include compulsory assignments related to this material.
Additional information	A simple search of the internet will reveal masses of resources and materials related to Flipping the Classroom. Here are a few that may be helpful: This guide from Vanderbilt University in the US gives a good overview with a useful description of the theoretical basis: This simple guide from Surrey University in the UK is a good introduction and also lists several digital tools that may be helpful

Example

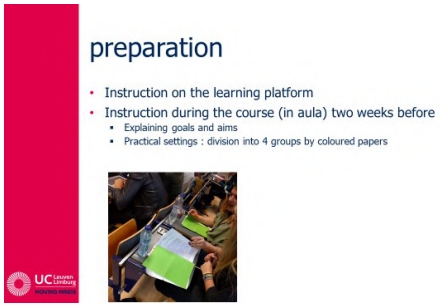
In UCLL, Raf Sondervorst initiated the flipped classroom method and speed tutoring in his course **Pedagogy** (Faculty of Social Work). He used this approach twice and in total 120 students participated.

Raf rolled out this didactical approach in several steps :

With his colleagues, Raf first selected the goals and content for this didactical approach: students should be able to describe and compare in their own words the different theories of pedagogy and school of thoughts. He referred to an article in the course reader that was put at the disposal of all students.



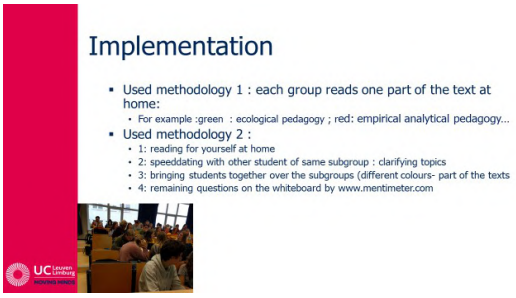
Two weeks before he wanted to introduce the flipped classroom method, Raf divided the group of 120 students into 4 groups as there are four schools of thoughts in pedagogy to be discussed. He made the division by giving every student one coloured paper (blue, green, red, yellow). He pointed every group of students to one specific school of thought on pedagogy.



Students were given instructions to read their part of the text connected to their study object (one school of thought). The next week they were connected with another student who belonged to their group (and had to read the same part of the text) . In a speed-dating session they had the possibility to ask questions to each other to clarify the theory of pedagogy they had to study. This process was repeated twice.

If there were remaining questions, students had to write them on a learning platform, so other students (but still within the same group (colour) could give an answer.

After this step, the next week, students came back to the aula. They were put together in small discussion groups. For every school of thought (with own colour of paper) Raf ensured there were at least two students in one group. Students had to bring along their coloured paper, so forming the groups seemed to be easy.



Every group discussion was given instructions to focus on the same questions for analysing eachschool of thought: what is the main idea, what is the context in which these theories could emerge, could you formulate some critical aspects, etc.

At the end of that discussion students could put any remaining questions on Mentimeter. Mentimeter is an easy to use online tool where individuals can post questions and points they wish to raise for everyone in the group to see. Then the whole group discussed the questions that emerged on Mentimeter.

The degree to which the design of the course is reconsidered in its entirety in order to adopt this method is a factor in its success.

6

Lecture Capture

Introduction

Lecture capture has been around for several years and involves the recording of lectures on video and making them available to students. It is a method often linked to the 'Flipped Classroom' approach and is usually part of a cross campus ICT-based strategy whereby lecture capture equipment is installed in different parts of the campus. There are a range of commercial technologies available and equipment can be either fixed in a lecture theatre or available in a portable set-up. In some university settings, lecture capture is operated by the academic themselves, in others it is supported technically by a technician of student.

The functionality related to the application of lecture capture varies considerably. Some equipment allows simply for the recording and basic editing of lectures while in other technical set-ups, videos can be annotated, used to generate multilingual scripts, book-marked and searched. Some offer the opportunity to introduce elements like quizzes while others facilitate tracking and generate data on how the lectures are watched which can be very useful.

Aim	To make more efficient use of university lectures by capturing them and making them available to students to watch in their own time which also includes making them available for revision.
Target group	Lecture capture can be applied in any discipline and at any level.
Intended learning outcomes	
More efficient use of academic resources, the argument basically being that by making a good quality recording of a lecture once, this recording can be used and re-used as and when the lecturer and student requires thus freeing up the academic to use his or her time in a more efficient and pedagogically valuable way.	

Description

Introducing lecture capture on any campus raises a considerable number of organisational questions to do with ownership of content, access to recordings and whether academics should be obliged to use such equipment. It also raises many technical issues related to storage and access as well as requiring course designers to re-consider how the overall course design needs to be adapted to make the most of lecture capture. There are also issues to do with quality of the content and presentation style which also need to be considered. There are also an increasing number of legal issues that need to be addressed.

Lectures need to be prepared carefully first taking into account the functional specifications of the specific lecture capture technology that is available. The recording is then carried out and the results are made available to the targeted students.

Normally the student doesn't have to do anything in particular apart from ensuring they have a suitable place in which to watch the lectures with good sound and light conditions.

Preparation	Careful preparation is required which may include coaching on the part of the production services of the college or university.
Required Resources and equipment	Video conferencing equipment, suitable (adapted) lecture theatre)
Success factors	The presentation skills and preparation on the part of the lecturer play a part in the overall success of this approach as does the functionality of the chosen video conferencing platform or service.
Advantages	For the student, having easy access to lecture recordings can help considerably in revision. For the academic, lecture capture offers quite some advantages in terms of avoiding lecture repetition.
Disadvantages	Requiring students to watch passive recordings of lectures has the disadvantage that it lacks opportunities for interaction so it is important to include opportunities for such interaction where possible through, for example, quizzes.
Additional information	There are many resources available on lecture capture and also a considerable body of research information available as to what works and what doesn't when introducing lecture capture. You will also find a lot of discussion online and elsewhere as to what effect lecture capture has on both attendance and attainment. See for example this article from Times Higher Education in November 2018. This simple guide from supplier Panopto provides a short introduction to different models.

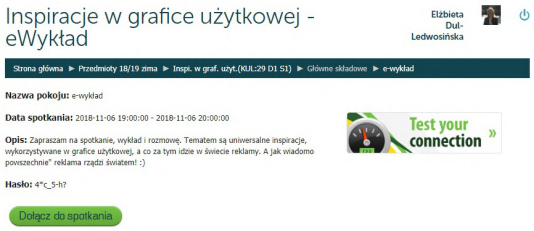
Careful preparation is required which may include coaching on the part of the production services of the college or university.

Example

In the University of Humanities and Economics in Lodz (AHE), Elżbieta has been using Lecture Capture in her course on Fundamentals of Graphic design for Culture Study faculty which is run with approximately 20 students. In this case the description refers to the class supported with the e-learning platform.

Here are the steps Elżbieta takes with the class in applying this approach:

1. She invites students to join an online meeting via AHE's e-learning platform (moodle) and sets a date.
2. She prepares materials including: links to videos realated to the content of the course and power point presentation.
3. She uses Click meeting tool to video tape the lecture, while she is presenting to students
4. The captured lecture is then made available to the students.

The date of the lecture is given on the e-learning platform, and students are invited to attend.	
The lecture is made available for students	

7

Peer Assessment

Introduction

Peer assessment is one way of monitoring what is going on during a learning process. It involves students in making a formative or summative judgement of one another's work. It has the advantage of engaging key aspects of student learning: the understanding of their learning by active involvement with the criteria of good learning, the selection of good practices/examples/evidence for these criteria and, by judging other students´ work, the understanding of effective professional action in any area. This means that peer assessment is as much a teaching/learning activity as an assessment method. Peer assessment is a good tool for large groups and/or e-learning environments.

Aim	To monitor the learning process of fellow students To assess work with learning goals in mind To understand better the assessment criteria of the course
Target group	All levels in all disciplines
Intended learning outcome	
• Better reflective skills • Improved metacognitive skills • Enhanced judgement skills vital for effective professional action • Increased critiquing abilities and self-awareness	

Description

List the learning outcomes you want to be peer-assessed and the performances that indicate different levels of achievement of each learning outcome.

Describe the meaning and share of peer-assessment in the overall assessment of the course.

Make a rubric (i.e. a scoring tool that lists the criteria for the successful completion of a piece of work) by defining the performance criteria on different levels concerning these learning outcomes. The SOLO taxonomy can help here[ii]. It is an option to involve students in this part of the assessment. Ideally, this rubric is the same the teaching staff member uses for assessing the learning outcomes.

Discuss and train students in using the rubric: what do the criteria mean? What is relevant evidence against which judgement can be reached? How would an example be judged (use anonymous examples of work)?

Give practical instructions about the peer-assessment.

Ideally, give feedback on their peer-assessment.

Peer-assessment can be done during class or outside of class. The teaching staff member trains students in using the rubric, selecting evidence and making a judgement.

Students carry out exercises on the use of the rubric, selecting evidence and making a judgement guided by the staff member.

Preparation	It is important that the teaching staff member designs in advance clear criteria or a very clear rubric for students to use. This can be done in collaboration with students. Students need to read the instructions and especially the rubric and formulate questions when something is not clear.
Required resources and equipment	A scoring document (on paper or online) where is listed which aspects students need to check.
Success factors	Clear criteria and understanding of good evidence and judgements.
Advantages	Students feel more responsible when they know their peers are going to give them feedback. Students get to know themselves better. Students learn to deal with feedback.
Disadvantages	It takes time to train students in assessing and giving feedback.
Additional information	On this link you will find an overview on peer assessment. An article with useful designs of peer assessment: An example of a peer-assessment document.

Students feel more responsible when they know their peers are going to give them feedback.

Example

In the University of Humanities and Economics in Lodz (AHE), Łukasz Zaorski-Sikora has been using the Peer Assessment method with all faculties during his obligatory course on the **History of Philosophy** which is run with 15-30 students.

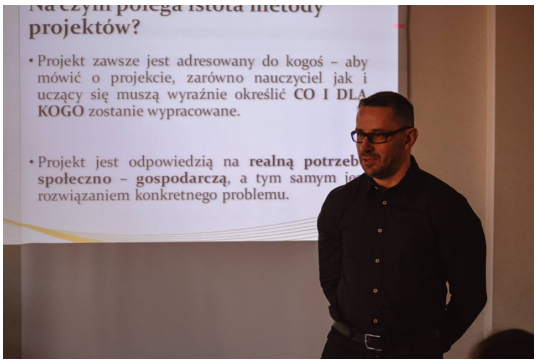
Here are the steps Łukasz takes with the class in applying this method:

1. During the first meeting at the university, Łukasz introduces students to the fundamentals of philosophy. He also talks with students about their interests and hobbies to bring their potential to the surface.

2. In the next step they start to discuss the social issues that students see in the world.

   Together they brainstorm about ideas on how people can make a difference.

3. Łukasz divides the group into smaller teams – 4-6 persons. He determines the rules for the project according to which students will assess their work. Each team addresses an issue they would like to solve using chosen theories and tools from the field of philosophy. Furthermore, each team specifies for whom they are developing a solution and how they are going to implement it. It's a real life project.



4. In this step students create a documentary about how they have realised their project and present them to one another's group.
   Each team starts with an evaluation of the work: what they would change when starting again. Self evaluation completes this part. This is the part that most students find the most difficult.

5. In the last step Łukasz asks the teams to assess each others work using a discussion, dialogue and constructive criticism.

8

Video assessment

Introduction

Using video as part of the assessment process is a relatively new phenomenon in higher education. No single definition exists and it can cover in fact a number of different approaches. These include:

- Asking students to produce their own individual or group video clips as part of project work
- Recording trainee teachers and others carrying out on-the-job activities and using these recordings for assessment purposes
- Media skill and competence assessment carried out with media and related studies including journalism
- Use of video clips in roleplay based assessment whereby students are expected to respond in a particular way to the video material – often used in online learning.

Two of the most important factors to remember in this type of assessment is that firstly, unlike traditional fact-based assessment, there are rarely right or wrong outcomes, which means that an academic taking on this type of assessment needs to be prepared beforehand to put significant effort into defining criteria and measurement benchmarks in order for this method to be useful. Secondly, it can be difficult to separate out the specific topic-related skills and competences from those related to video production. Creating assessment rubrics as described in the previous approach can also be useful here.

Aim	To assess the students skills, competence and knowledge in a specific area.
Target group	Variations of video assessment can be applied in practically any subject area and with any level of student.
Intended learning outcome	
Successful evaluation of the topic under assessment that has meaning and value for both the academic and the individual or group of students.	

Description

Start well beforehand by defining the assessment procedure and practice, the assessment criteria and the way in which the results will be used in the overall assessment of a student's progress.

When doing this you may need to create a matrix or rubric which covers all the different possible outcomes and to assign certain values to each using scales and commentaries to facilitate ease of use and to help make the system as consistent as possible. When creating your assessment criteria, be careful to separate out assessment of video production skills from the core subject of the assessment.

Once you have created your draft assessment procedure, it is recommended to test it out in a non-critical context to ensure that it is not only fit for purpose but also that all necessary explanations are sufficiently transparent for everyone involved. Check also for timing and making sure that students have enough time and resources to carry out the required assessment tasks. If asking students to work in groups to submit a video that is to be assessed, think carefully about how these groups will be put together, are they to be self-selecting or do you wish to set them up beforehand taking into account the particularities of individual students.

Once established, the student just needs to carry out the instructions given by the academic to prepare his/her video based assessment assignment.

Preparation	Define procedure and timetable, Make available evaluation criteria and benchmarks to be used
Required resources and equipment	The academic needs to consider the resources students will need for their assignment. If students are expected to have their own recording, editing and publishing resources or if these are provided by the university. Terms and conditions related to each set of circumstances need to be put in place well before the assignment begins.
Success factors	One of the key success factors related to this type if assessment is the degree of sophistication of the assessment criteria applied. It is really important to have developed and validated a meaningful set of benchmarks, rubrics and/or guidelines beforehand to determine what constitutes evidence of acceptable performance.
Advantages	This type of assessment can be very rewarding for students as it provides them with useful portfolio material as well as an opportunity to advance their skills in audio-visual production.
Disadvantages	This can be quite a complex form of assessment and it may be difficult to separate out the quality of the video production from the rest of the assignment.
Additional information	Here are several reasons why video creation as an assessment tool can be valuable taken from the WEVIDEO Blog • Video creation opens the door to organically embracing the revision process without students feeling the drudgery of taking a test. • Students are motivated to revise their work within a video creation project because the results are instantly viewable and encourage further refinement. • There is an element of gratification that makes the video creation process more welcoming, especially when juxtaposed with a paper/pencil quiz or test. • Video creation gives students an outlet for creativity, the output of which the student can feel both proud and invested.

	Here is a simple explanation as to the value and organisation of assessing students video recorded presentations. Check out this site from Yale in the US which describes how you can set about creating an assessment rubric: Summary of different types of video assignments from equipment supplier Kaltura.

Example

Video Assessment

In the National University of Ireland Galway (NUI Galway), Dr John Murray from Earth & Ocean Sciences, School of Natural Sciences, has been using video actively for several years in the History of Life project that he runs with his students. Since 2011, final-year undergraduate science students taking the module *'History of Life'* have worked in small teams to research a significant theme related to the evolution of life on Earth and to then produce a short documentary-style film on their chosen topic which is then assessed as part of their year's work. The student teams storyboard, script, film and finally edit their films in just six weeks, before uploading them to the History of Life Channel on YouTube.

The vast majority of the students who make these films have no prior training or background in film-making, nor do they have any production budget. These have never proven to be limitations – the students generally relish the challenge and enjoy the relative novelty of the learning experience.

Here are the steps John takes when launching the project with his students each year:

1.	It is important to flag this learning activity, which is an integral part of a 5 ECTS module (it forms the entire continuous assessment component), well in advance with the incoming student cohort. This is particularly important as the vast majority will never have experimented with film-making before. Students in the earlier years of their science degree at NUI Galway are made generally aware of the project (during lectures etc). Having the finished student films from previous years available, and in the public domain, on YouTube is a great help in this respect.
2.	About two months before the formal start of the History of Life module the incoming students are notified by email about the upcoming film project. They are encouraged to think about who they would like to work with in their class, and what transferable skills are needed in each team.
3.	In the first week of the project, Workshop 1 involves team-formation and brainstorming amongst the newly formed student teams to decide what they would like to research and capture on film.

4. As the finished films are uploaded to YouTube, and effectively put into the public domain, the student teams are made fully aware of copyright. This happens right at the start of the process and, rather than being a limitation, it actually encourages them to think very creatively about how they would like to communicate their message.

5. This first workshop also introduces students to the concept of a storyboard and emphasises its importance to the overall production. This is something which media or film-making students would instinctively recognise; however, students from other subject backgrounds tend to be less aware.

6. In Week 2, the second workshop provides the teams with immediate, and very practical, hands-on film-making experience. The student teams create a very short film on a random (and often quite humourous!) topic and learn how to upload their clips to a laptop and edit them together.

7. At the halfway mark in the project the teams formally submit their storyboards and scripts (end Week 3). The module instructor reviews these and meets in person with each of the teams in Week 4 to provide constructive feedback. It is essential that these meetings are positive and encouraging for the student teams. If the project has veered off course in terms of research, scope or vision, constructive suggestions for improvement must be provided at this point – there will still be time to correct things.

8. Filming occurs in Week 5. The student teams are left to their own devices to decide where, when and how they intend to capture their shots. Smartphones are presently the most common and popular choice for filming purposes.

9. The final week is devoted to editing together the final films. The students complete this on their own laptops, generally using proprietary software. The workshop for that final week provides some practical hints and tips for editing, then the module instructor and learning technologists (from NUI Galway's teaching support unit – CELT) circulate amongst the various student teams to provide feedback and advice.

10. The final films are finally uploaded to the History of Life Channel on YouTube. A short film compilation, which outlines some of the steps (in 3-9 above) is located here.

11. In total, 4 of the 6 weeks (approximately two-thirds) of the film project are devoted to research and pre-production. This weighting is entirely necessary in order to ensure that the finished films have depth and substance, and visually work well onscreen.

When it comes to assessing the quality of the students' production, here are the assessment criteria that John and his colleagues use:

- Storyboards and scripts are reviewed and returned to the student teams in Week 4 (see above). These usually constitute 10% of the total score for each film. In terms of assessment, it is necessary for these items to demonstrate research, knowledge and understanding of the chosen study topic. Additionally, they need to demonstrate a clear vision and capacity to communicate a message to a general audience. Very often, in the storyboard review meetings with each of the teams, the question arises "great idea, but *how* will you show that onscreen?"

- 40% of the mark is based on the 'educational value' of the finished films. This is marked by the module instructor, who also delivers all of the lectures about the evolution of life on Earth on the broader History of Life course. They are uniquely positioned to assess this aspect as they will be immediately aware of what new information the student teams might have unearthed during their research (outside of lecture notes) and can assess its broader significance. The largest weighting is attached to this particular assessment category for the History of Life student films –largely because the entire project is an exercise in science communication.
- 25% of the mark is based on 'production value' of the finished films. This category is scored by both the module instructor and a learning technologist from NUI Galway's teaching support unit. This category examines the technical aspects (the nuts and bolts) of how the films were shot, assembled and edited. The weighting might seem a little low, but it must be remembered that the students making these films are not film or media students. Visual expression is the most essential element in terms of helping to communicate their scientific message.
- 25% of the mark is based on 'entertainment value' of the finished film. The finished documentary films are premiered at a screening event in the department (which is a celebration) and this aspect/category is assessed by an anonymous 'test audience' of ten (or more) individuals. They are chosen to be as diverse and representative as possible, and each individual assessor is asked to simply score (out of 10) how well each of the student film productions held their attention.
- Finally, an element of student peer-evaluation is included in the assessment process for History of Life. The students reflect on their individual contribution to their film project and evaluate their own team's overall performance. If any issues arise (particularly with regards unequal work contributions) marks can be redistributed as deemed fair and appropriate.

When it comes to advising others in using video assessment as part of their teaching and learning portfolio, here are some of the tips that John would like to share:

- Most importantly of all, **trust** in the abilities of your students. They have tremendous capacity for imagination and creativity, many just need an outlet to allow themselves to express themselves. This is almost certainly the case for all students, irrespective of the particulars of the subject area they are studying.
- As a teacher promoting this type of learning activity, **flexibility** has also proven a necessity. The assessment criteria outlined above have 'evolved' over several years, and they continue to be tweaked and modified.
- Many students will never have experimented with film-making before. The relative novelty of the activity can be an attraction for them; however, it can equally be a little daunting, as they are unsure what is expected. It is really important to provide the student teams with as much **practical experience** and **constructive feedback** as possible during all phases of the film production. Positive reinforcement of their skills and abilities pays dividends.

9

Virtual Internship

Introduction

The trend towards virtual internship has increased in recent years. What such an internship offers is that it enables students to gather work experience with companies based in their own country or anywhere else in the world. The basic idea is that rather than having to be in the same location as the company where they are doing their internship, they carry out their internship virtually by working remotely from home or any place with a good internet connection. Students have the opportunity to be a part of the team even if they are not in the office. More and more students look for such opportunities to gain knowledge and experience through work, especially if they live far away from where the internship is offered. A virtual internship is a great opportunity for them to gain experience from literally anywhere. The most important aspect of such an internship is to make sure there is regular contact with a manager or people in the company/institution responsible for the task being carried out by the intern, via messenger, email, phone or any project management tool.

Overall aim	To improve a student's employability by allowing them to gather additional skills and experiences and to facilitate them in finding interesting job opportunities all over the world (starting in their own country).
Target group:	Any courses/occupations that are suitable for remote working e.g. translators, graphic designers, architects, counsellors, etc.
Intended learning outcomes	
• Ability to work remotely • Experience of working in real environment • Learn how to prioritise time and effort • Improve ability to use new technology for working • Gain specific skills related to chosen career	

Description

A virtual internship is much like a traditional internship, enabling a student to gain skills and experience expected at the future work place. The process of finding a suitable internship is mostly done by the student. Although Internet sites offer international opportunities matching students expectations and skills, such initiatives are still somewhat rare – lets see what we can do to build up the interest!

If the internship is supposed to be fulfilled at the teaching staff's university/institution a schedule of the tasks has to be prepared and given to the student.

If the student is doing the internship in an external company and the teaching staff member takes the role of a counsellor his/her task is to give advice/feedback to help the student through the experience if necessary.

The teaching staff member is also responsible for signing the agreement with the company, checking the internship reports filled in by the student and feedback provided by the representative of the company.

During the internship, the teaching staff member needs to give instructions/tasks/feedback, check results, and read references and reports sent by the company if applicable.

The frequency of contact and the possibility of using ICT tools depends on the individual agreement between the student and the institution providing a virtual work experience.

A virtual internship is much like a traditional internship, enabling a student to gain skills and experience expected at the future work place.

Preparation	The teaching staff member needs to prepare either the tasks for the student or connect him/her with a relevant department within the university. Alternatively, the staff member may be involved by signing the agreement with the external company where the student is doing an internship
Required resources and equipment	Suitable hardware, software and internet connection for the student to be in contact with the company as regularly as required.
Success factors	Independence and self-reliance, self-discipline of the person willing to work remotely with no actual supervisor.
Advantages	The main advantages to this approach are: • no cost of transport or relocation • allows student to continue to meet his/her other commitments n their university/college • provides an opportunity for the student to expand their knowledge and experience with social media, as well as various different tools and communication services.
Disadvantages	There may be several disadvantages in relation to this approach: • the potential lack of supervision • the extent to which a student feels less involved in the internship as it is 'only virtual' • lack of face-to-face interaction (which is often a defining feature of the job in humanities and social sciences - that can be overcome by video conference e.g. via Skype)
Additional information	This website offers opportunities for virtual internships. The European funded project PROVIP (2012-2014) was a continuation of EU-VIP. The main objectives of PROVIP were the further dissemination of the EU-VIP outcomes, especially to companies and the translation of the EU-VIP findings in an online tool to support virtual internships. These outputs provide useful guidance to anyone interested in introducing virtual internships and are available here.

Example

Sylvia was recently a student at University of Humanities and Economics in Lodz (AHE) where she was studying Graphic Design. As part of her studies she carried out a virtual internship with a company called Breakplan which runs a travel services website. Breakplan was interested in hiring interns for a graphic designer position. Sylvia found the company innovative and in line with her expected job profile. Wanting to be a part of it she sent her resume to the concerned person.

Here is how she described this experience:

The first contact was via email, I got the information about who would be my internship mentor and what I was supposed to do as a test. It was a project related to a page in a travel guide.

I sent my work to the mentor, all of it via email. Then, together with the representative of the company we decided to use Facebook and messenger for communications, which suited me as I could get quick response or feedback that way.

My job was retouching photos which were later placed on the website or on the pages with the tours offer. I created images for Facebook funpage, illustrations promoting events or contests.

I was delivering the works that were accepted and approved, uploading them on google disc, posting on Facebook or sending via email.

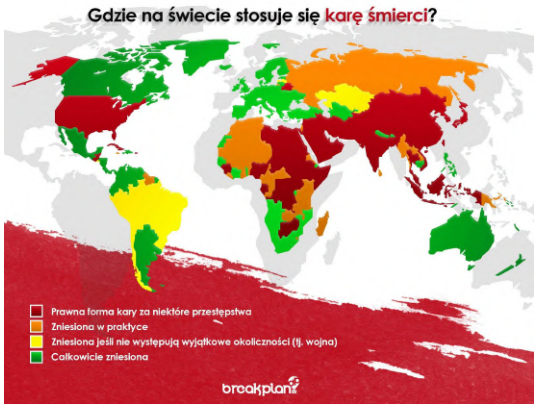


Figure 2 example of work carried out by Silvia

Figure 1 example of work carried out by Sylvia

My duties were organised in this way: I was given a link to the schedule created as an excel file in which I could mark preferred dates and hours on which I was available and willing to work. My mentor was adjusting the tasks and the schedule (deadlines) to it.

This is so millennial!

Methods and Techniques

In this second section of the handbook, we have described a number of different methods or techniques which can be used to innovate individual or single lessons. They can be applied as and when you find them relevant or appropriate to the content of the lesson and usually only require the engagement of the specific teaching staff member who is responsible for that specific lesson.

10

Manifesto

Introduction

Manifesto is a method that provides students with the opportunity to recognise and analyse common persuasive strategies in written and oral form and to apply more effectively persuasive strategies to influence audience members' beliefs, attitudes, and values.

This is a method to bring about change, to forge a body of learning, and a document that shapes the way changes are to be made from the resources at hand.

Persuasive strategies have been applied in marketing, communication, education, health and other domains and are found to be quite effective in changing people's attitude and behaviours.

Aim	To enhance critical thinking and communicative skills, specifically the ability to create information and communicate it effectively.
Target group	Students of all courses and all study fields. Suitable for small and large groups.
Intended learning outcomes	
• ability to recognise common persuasive strategies; • enhanced ability to articulate different persuasive strategies and the significance of these differences for changing another's thoughts or actions; • skill in more effectively applying persuasive strategies to influence audience members' beliefs, attitudes, and values; • improved critical thinking and communicative skills.	

Description

Have your students listen to or read examples of a manifesto, e.g., The Communist Manifesto, The Declaration of Independence, Martin Luther King's "I Have a Dream Speech".

Now work with them to analyse phrases and techniques that helped the writer persuade the listener, using the following techniques: Word Cloud (visualisation of the most frequently occurring words in the Manifesto); Frequency Analysis (to understand the proportion of words in the manifesto); Network of words (useful for identifying clusters of words which are more related to one another).

Then discuss and define ways that are used to persuade people.

Then have your students identify – alone or in groups – at least one example of how the speaker/writer uses positive motivation, negative motivation, appeals to safety needs, to social needs and how the speaker/writer utilises cognitive dissonance.

Now have your students imagine that there is a need to deliver a persuasive speech to prospective students considering attending your university/college. What could they say that would appeal to their safety needs? Their social needs? Their self-esteem needs?

Students should then be invited in groups to create a manifesto to announce new and radical intentions using the "CATTt" method[iii]. This requires them to create multi-level arguments. This is achieved through five progressions.

C = Contrast (opposition, inversion, differentiation)

A = Analogy (figuration, displacement)

T = Theory (repetition, literalisation)

T = Target (application, purpose)

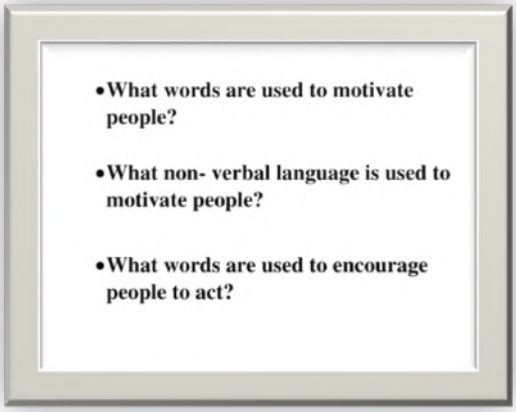
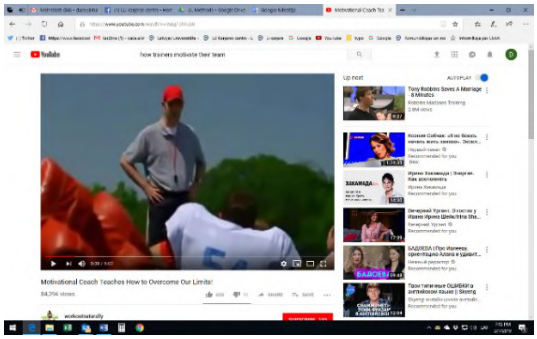
t = tale (secondary elaboration, representability)

Preparation	Not necessary.
Resources and equipment	The video, audio and/or transcripts/texts of speeches, declarations, manifestos etc.
Success factors	Adopting this approach requires an ability on the part of the student to conduct research in order to develop a topic.
Advantages	Applying this method, students will be better able to investigate alternative viewpoints, evaluate various perspectives, learn about potential bias.
Disadvantages	This method may be overly time consuming and it may be difficult to bring all group members together in agreement.
Additional information	A detailed description of the CATTt method is available here. Here are some useful resources: • How to Create Your Own Manifesto – video tutorial • How to Write a Manifesto. • Manifesto: Writing as a weapon

Example

In the University of Latvia, Dace Siliņa has been trying out the Manifesto method with her course on **Public speaking** which is run with 10 students.

Here are the steps Dace takes with the class in applying this method:

To begin with she provides guidance on what students should do to carry out an analysis of a speech (text, video, audio or real presentation).	
Students then listen carefully to or read examples of at least one manifesto. Check out the ones available on YouTube	
You can offer a real presentation	
Students are split in groups and they discuss and summarise their responses to the questions that were given at the beginning.	

11

Role Play

Introduction

In English there is a saying “to be in somebody else’s shoes” which means taking somebody else’s perspective, their way of thinking, their position in a discussion. This saying is a good way to introduce role-playing, which is based on taking on someone else’s role when trying to solve a particular problem. Role-playing can be used as an educational method, which involves the active identification of students with (fictional) roles and situations. It activates the student's knowledge and skills and creates new opportunities for cognitive, emotional, sensory and motor activities based on the student actively taking on someone else’s role.

Aim	To take on specific roles in an effort to resolve specific problems.
Target group:	Students taking part in social sciences studies, teacher training, business training, health service courses, etc.
Intended learning outcome	
• Improved ability to see the other point of view and to see problems from different perspectives. • Better social awareness and level of personal responsibility. • Enhanced creative thinking, critical thinking, decision making, problem solving. • Better communication and group-work.	

Description

Students are invited to work in groups of three, each of whom is given a specific role:

- Fictional role 1 (for example the teacher)
- Fictional role 2 (for example a parent)
- Witness

Students are then given the task. For example, the teacher has to inform the parent that the child is suspected of having Autism. The students playing the fictional roles then act out the conversation. The witness listens to the conversation and makes two lists – one with good and one with bad statements according to the procedure given by the teaching staff member.

After ten minutes the student playing the teaching staff member gets feedback from the witness. When taking an approach to feedback that is positive, the witness should provide 3 positive reflections and reflect on 1 aspect that could be improved. Then the students playing fictional roles swap the roles.

After ten minutes, the teaching staff member elicits a second round of feedback from the witness.

Once this phase is over you as facilitator should initiate a whole-class discussion in order for the students to exchange opinions, discuss how to build a procedure to solve the given problem and to deliberate on the different options that were taken.

Preparation	Preparing the role play task, thinking of roles, sometimes role-cards can be used, students may also need to carry out some investigative work prior to the class.
Required resources and equipment	Pencil and paper for witness. You may want to prepare cards describing each role and a template for the witness to complete with their observations.
Success factors	For this method to be successful you need to allow enough time for the exercise and to coordinate the allocated space well. As the facilitator, you also need to have a good background knowledge of each role that is to be played.
Advantages	The role play method improves students' ability to see the other point of view and to see problems from different perspectives. It leads to better social awareness and level of personal responsibility and creative thinking, critical thinking, decision making, problem solving.
Disadvantages	It can take a lot of time.
Additional information	Here is an example of applying this role play method in an Interior Design course: Students work in threes and are given roles: • Fictional role 1 of interior designer • Fictional role 2 of the client • Witness Students are given the task whereby the designer has to investigate the client's needs in the designing of a new flat. The witness listens to the conversation and make two lists – one of good and the other of bad statements, procedures and behaviours of the designer. Students run the conversation. After ten minutes the designer is given feedback by the witness. Then they swap roles while the person playing the witness remains the same. After this exercise there is a whole-class discussion to exchange opinions, discuss how to solve problems, give options, etc.

Example

In the University of Humanities and Economics (AHE), Kamila Witerska has been trying out the Role play method with her students as part of a course on **Education**.

Here are the steps Kamila takes with the class in applying this method:

- First students are put into groups of three and are given the roles:
  - Fictional role 1 – the teenager
  - Fictional role 2 – the parent
  - Witness

- Then the students are given the task: the teenager wants to study photography, the parent wants the child to be an economist. The witness is listening to the conversation and make two lists – good and bad statements on the part of each protagonist.

- Students take part in the conversation.

- After ten minutes the students are given feedback from the witness. In the feedback the witness highlights 3 good statements and 1 statement that could be improved.

- Students then swap roles. Only the witness remains in the same role.

- After ten minutes, there is a further round of feedback from the witness.

- Finally there is a whole-class discussion (exchanging opinions, discussing ways to solve the problem, giving options, etc.)

The role play method improves students' ability to see the other point of view and to see problems from different perspectives.

12

Brainstorming

Introduction

Brainstorming is a method that supports creative thinking and problem solving by gathering a list of ideas spontaneously contributed by a group of people. Those involved meet and agree to use their imagination, knowledge and experience to generate new ideas and solutions for problems.

The two most important principles of brainstorming are:

- Deferred Judgment: in the first phase of generating ideas, participants have to agree to postpone judgment – all ideas are good!
- Quantity Breeds Quality: this means that the more ideas that are generated during the first phase of brainstorming, the better the chance of producing effective results and solutions.

Aim	To solve problems in a group setting
Target group:	This method can be applied in a wide variety of disciplines including social sciences, teacher training, business training, health service courses, etc.
Intended learning outcomes	
• Enhanced ability to think creatively • Improved critical thinking and decision making • Better problem solving skills • Improved ability to communicate and participate in group-work	

Description

As the facilitator, you should first explain the basic rules of brainstorming and introduce the usual two phases that make up a brainstorming session, namely the first, creative phase and then the second critical phase.

In the first phase, students are presented with the topic/problem to be solved. They should come up with all the solutions they can think of which are written down on a board, a big sheet of paper or on post-its.

In the second critical phase, they carry out a critical appraisal of the ideas generated. This can be done in different ways, e.g. they can:

- cross out all the ideas nobody accepts
- group the ideas into categories
- make a mind map of the ideas
- list the ideas (prioritise them) in discussion or by voting

The way of working with the ideas gathered depends on the structure of the problem and the aim of the lesson.

During this exercise, you as facilitator should provide the task or problem, help to stimulate students input, take care of time-keeping and make sure the rules are respected.

Preparation	The teaching staff member needs to prepare the task/problem that will be the subject of the brainstorm.
Required resources and equipment	Blackboard, white board, pen and paper or post-its
Success factors	The success or otherwise of this method depends largely on good time and space coordination and a willingness on the part of everyone involved to stick to the rules.
Advantages	The brainstorming method enhances students' ability to think creatively, improves their critical thinking and decision making, leads to better problem solving skills and ability to communicate and participate in group-work.
Disadvantages	Students can be blocked in the first round by the most active ones. The facilitator has to ensure there are effective ground rules in place to ensure everyone is involved.
Additional information	You can use digital tools to support the brainstorming method. AnswerGarden is a good example, it is an easy to use, free tool that enables people to give feedback as well as gathering and prioritising ideas. It can be used in the classroom with students' smartphones.

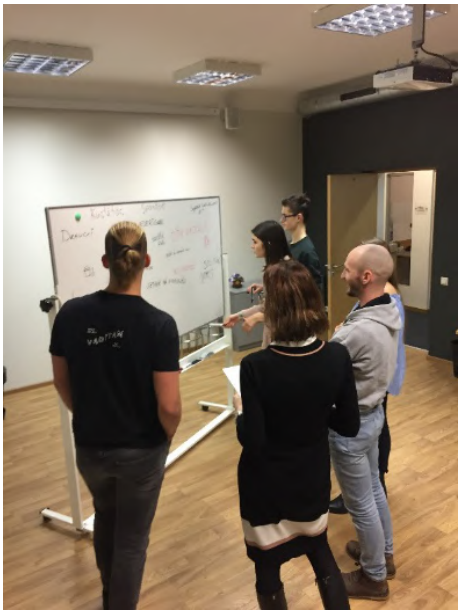
The brainstorming method enhances students' ability to think creatively, improves their critical thinking and decision making...

Example

In the University of Latvia, Līga Valinka has been using the Brainstorming method with students on her course on Mentoring which is run with 8 students. In this example she used brainstorming to teach students about the development of adolescents and how to mentor them.

Here are the steps Līga takes with the class in applying this method:

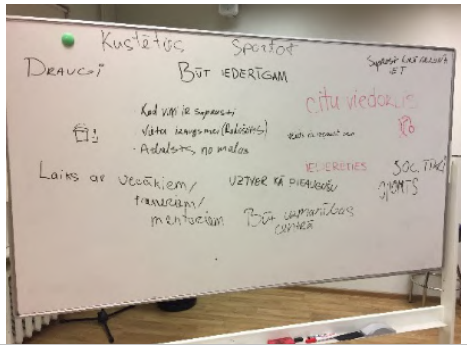
- She first gave students the task to brainstorm on the question: "What is important to teenagers?"



- Students wrote down their ideas on a whiteboard.

- Teacher asked questions regarding students' ideas: "What do you mean by that?", "Can you explain more?"

- Teacher goes on to provide more information about development of adolescents and tips for mentoring them.



13

Simulation

Introduction

Simulation is an educational activity in which students experience a real work situation with the teaching staff member as supervisor. They define a scenario and parameters of the procedure and ensure that students understand the tasks before beginning. It is a very general and flexible teaching approach that can be used in most disciplines. Simulation is a flexible activity with the scenario changing according to what happens along the way. Simulation provides experience as close to reality as possible.

Simulation differs from role play because it is very close to the real situation, while role play can use different metaphoric means, like for example role swapping, giving alter ego roles, playing the roles of objects, and so on.

Simulation and role play are teaching methods that help students understand the content of the lesson. Simulation is when students are assigned roles e.g. as buyers and sellers, advocates, nurses, sometimes in real-world environment (see the example from AHE, where law faculty students work in a real court, creating a trial, involving real judges) while a role play is when students are acting as different characters, in the classroom.

Aim	To gain knowledge and skills by interacting with a “real world” situation and environment.
Target group	Students of any field of study where simulation of the working environment is possible.
Intended learning outcomes	
• increased knowledge and skills through experiential practice • enhanced critical and evaluative thinking • more developed appreciation of community and culture	

Description

You as facilitator provide the situation scenario and the specific tasks to be simulated in a real work environment. It is up to you to find the working space. Students decide if they want to take part and which role they would like to take. One scenario we organised in AHE was a court trial using a real court location with students of the law faculty in the role of a prosecutor, defender, accused and witnesses. The judge was a real one. This provided a great opportunity for students' work assessment as they had to convince the judge with their arguments. High school students of the law class made up the audience – which was agreed in advance. The case was documented (filmed).

During the simulation, the facilitator provided a framework for the situation and the case scenario, supervised the study and research and assigned the study materials.

Simulations can also take place in a medical simulation centre, equipped with technologically advanced patient simulators and audio-video devices located in the university, where students of a nursing faculty can practice their skills and knowledge, gathering experience close to the real situations.

Preparation	At the start of the course the facilitator develops a scenario for a learning experience. An assessment of student learning through simulation should be planned - it is often more complex than with other methods. Students need to prepare by carrying out research on the background of the situation to be simulated.
Required resources and equipment	Scenario of the activities developed by an academic staff member, students and other people involved in the simulation (when conducted in real-world facilities). A real working space – as mentioned above: a place outside of the university, a space made available for students in agreement between teacher and the people responsible for such an environment. To develop a quality learning experience, time and working space are required.
Success factors	A key success factor in relation to this method is the degree to which the students are engaged.
Advantages	Simulations help students develop skills of critical and evaluative thinking, enabling them to learn through experiential practice procedures and processes running in the real work place.
Disadvantages	Lack of interest in participation in the activity.

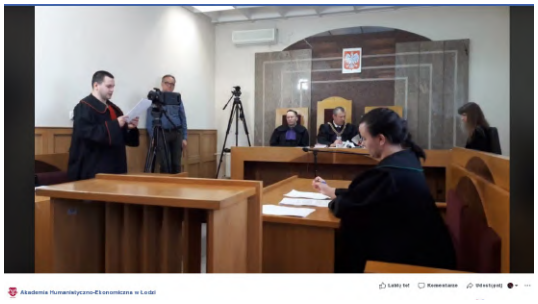
Simulation is a flexible activity with the scenario changing according to what happens along the way.

Example

In the University of Humanities and Economics in Lodz (AHE), Mariusz Olężałek has been using the Simulation method at the Law faculty with his course on Law proceedings which is run with 15 students.

Here are the steps Mariusz takes with the class in applying this method:

1. During the first meeting at the university, Mariusz piuts forward the situation and tasks to be simulated in a real work environment. Students decide if they want to take part and which role he/she takes. In this case Mariusz, being a solicitor, invites students to see how the real court works. Mariusz arranges the educational situation, asking for permission to run the class at the court. (The topic of the simulation depends on the professional background of the teacher and his/her connections).
2. In step 2 together they develop a scenario for a learning experience. At the same time students are gaining knowledge about the rules of the lawsuit proceedings in the courtroom, about the facts or issues in the case that are in dispute.
3. In step 3 students describe possible roles and decide who is taking responsibility for which part. They practice their roles during classes at the university.
4. In step 4 they go to the court and perform the simulation.
5. In step 5, back at the university, they evaluate the simulation, reflecting on what they learned.

Preparing action in a real courtroom: students from the law class will be the audience, gathering information and gaining knowledge.	
Two students in the role of a parties directly involved in a lawsuit: a prosecutor and a defendant playing their roles in front of the real judges who kindly support the educational situation. Both students really enjoyed the simulation, especially the girl, who insisted on wearing real handcuffs during the scene. Behind the camera stands a fellow academic recording the proceedings and making a documentary about the simulation.	

14

Interactive hunt

Introduction

Interactive hunt is a learning method that supports discovering, doing and sometimes competing. Such a j hunt, sometime called a 'scavenger hunt' can take place either in the real world or online. There are different tools available to support such an online scavenger hunt, one of the more popular is Actionbound which is an app for playing digitally interactive scavenger hunts to lead the learner on a path of discovery. During the hunt students may do quizzes, record music or voices, and even record short films. It is very engaging because of the possibility of using mobiles and the kind of competition it generates between teams taking part.

Aim	To activate students to discover knowledge and places by themselves.
Target group	All courses
Intended learning outcome	
• Exposure to new knowledge • Increased ability to learning individually or through group work • Enhanced ability to use new technology in learning	

Description

The teaching staff member or students prepare an interactive hunt using for example the Actionbound app.

The students are then divided into groups, they should download the Actionbound app and scan the QR code of the hunt.

The groups then carry out the necessary tasks to accomplish the hunt.

The staff member presents the final scores and results of work done during the hunt.

Preparation	The teaching staff member needs to prepare the tasks on whatever tool they choose to use, e.g. Actionbound.
Required resources and equipment	One smart phone per group with the app installed.
Success factors	The success of this method depends on the availability of mobile phones and good preparation before the lesson
Advantages	Exposure to new knowledge, increased ability to learn individually or through group work , enhanced ability to use new technology in learning.

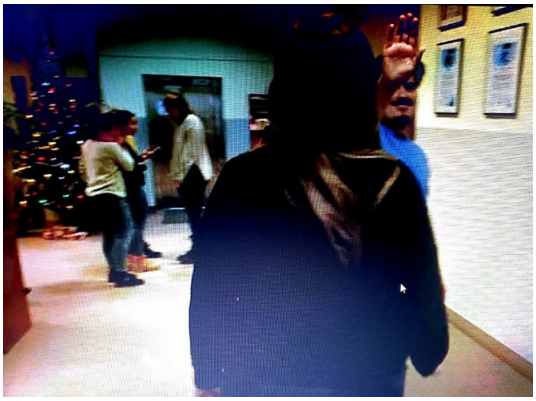
Disadvantages	There is quite a lot of preparation required before the lesson for the person who prepares the hunt.
Additional information	

Example

In the University of Humanities and Economics (AHE), Kamila Witerska has been trying out the Interactive hunt method with students taking her course on **Drama**.

Here are the steps Kamila takes with the class in applying this method:

- Kamila prepared an interactive hunt **Drama** in the Actionbound app.
- The students were then divided into groups, they download the Actionbound app and scanned the QR code of the hunt.
- The groups then carried out the necessary tasks to accomplish the hunt:
  - Quiz
  - Taking a photo of a sculpture
  - Making a short film of an exercise
- Kamila presented the final scores and results of the work done during the hunt.



Interactive hunt is a learning method that supports discovering, doing and sometimes competing.

15

Future Scenario Planning

Introduction

Scenario planning is a method for thinking about and planning for the future. The goal is to produce opposing narratives (stories) about how certain aspects of reality might/or could be influenced by certain attitudes, circumstances, events, which are driven by underlying environmental, natural, demographical, societal and cultural, technological and scientific advances, political, etc… forces and concerns. The so-called 'forces' are uncertainties that could move in one direction or another (possibly opposing) direction, depending on reactions by leaders, but also circumstances.

The scenarios are stories about potentialities. They are not predictions about the future. Even though some of the stories might come true, the stories are meant to help companies/ /institutions/organisations/governments/influential persons to develop policies, ideas or actions to plan for the future and when necessary to counter-act possible negative potentialities.

Aim	The original purpose of scenario planning is thinking about and planning for the future, however, within an educational context although scenario planning method can be used for such purposes, it can also be used as a tool to help students learn about the inter-connectedness of reality as well as to enter into dialogue and collaborate with others from potentially different perspectives. Hopefully, they learn how to work together in order to create positive possible futures for all.
Target group	Can be successfully applied in social sciences, education, as well as in business administration and marketing, design.
Intended learning outcomes	

- students appreciate and respect the different perspectives/backgrounds/opinions of others
- students understand life as a rich and complex interconnected reality
- students collaborate respectfully and successfully with persons from different backgrounds, religions, cultures, language groups etc.
- students formulate sound research questions concerning future scenarios based on trends in data
- students research big data on societal themes e.g. health, education, demographics,
- students imagine future scenarios in a certain disciplinary area based upon available data
- students reflect and formulate consequences of different future scenarios for a certain disciplinary area
- students collaboratively compile a report and make a presentation about their findings concerning future scenarios in a certain disciplinary area
- students discuss respectfully future scenarios and different perspectives

Description

Start from a question: for example, what will this or that job look like in 2050? (e.g. educator, teacher). The idea is that students should have an opportunity to envision the future from different aspects/points of view.

Compose “scenario groups”

In scenario planning there are various models that planners can use to understand the factors that can affect their thinking. In the current case of IEC (International Educating Class, UCLL), the teaching staff member uses ENDSTEP. ENDSTEP is an acronym of a model that helps you to think about and remember the factors/forces, which could affect education. That is, factors/forces, which are related to: Environment, Natural Resources and Nature, Demography, Society, Technology, Economy and Finance, Political forces, trends, ideas, events... Students identify driving forces related to these factors in order to identify trends. Uncertainties are crucial in this: they can go either way in the future, which needs to be taken into account in scenario planning.

Every group builds a “Scenario Matrix” : a four-fold “possibility grid” on how to plan or be ready for those future uncertainties regardless of whether the future is good or bad – utopic or dystopic.

Student create stories (narratives) about the future in the area of the subject chosen, with possible uncertainties.

Example of assessment of scenario planning :

Students should be graded according to the quality of the interaction process and according to the quality of the products and presentation of their work in class. Process and participation, i.e. willingness to question, to discuss, to add to the discourse, conduct research, prepare presentations and intellectual curiosity. Here is a possible breakdown of marks:

25% Futuristic and Imaginative Newspaper Article (pair grade)

25% ‘Uncertainties Report 2050’–(Individual research paper)

25 % Individual Participation Grade (based on internal team presentations, intellectual curiosity, preparation for OECD meeting and Final Presentation in the Town Hall (including a peer evaluation report) and attendance.

25% Final Presentation and Scenario Narrative (Team Grade)

Preparation	The teaching staff member introduces the method to the student. It is important to stimulate this “scenario thinking” by giving many examples of trends in societies and scenarios developed by international institutions.
Required resources and equipment	Magazines, online and offline articles, drawing paper, post-It notes, markers.
Success factors	Students need to have a good level of basic and general knowledge, they need to be willing to think outside of the box and about complex issues without judgement or pre-condition. To be successful, you as the facilitator need to be knowledgeable in various fields and able to direct the students into deeper levels of research and to see connections with other fields of interest.

Advantages	Students have a lot of space for personal processing of the content. Useful as a way to link different disciplines and opportunities for interdisciplinary group work.
Disadvantages	The students must be willing to do a lot of individual and independent research which means that this method may be overly time-consuming.
Additional information	This website provides a more precise description of scenarios and explains further why you might like to use them. This information is based upon the work of Melanie van Oort-Hall who can provide additional information if required.

Example

In UCLL, Ruth Wouters has led several activities in the area of Future Scenario Writing.

Here are the steps Ruth takes in applying this method:

Motivation phase

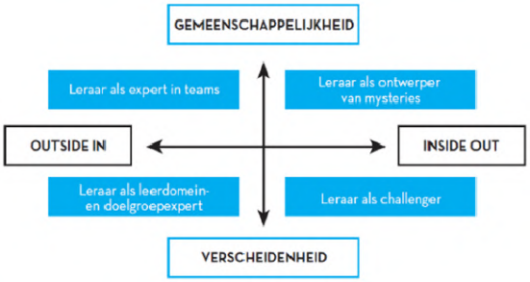
- I asked first a fascinating and urging question: *Who and where will curriculums/programmes be designed in 2040?*
- I asked the group to go into pairs to inquire/look for tracks of trends for the future. I suggested to walk around: through buildings, the city, ...
- Check for STEEP elements (Society, Technology, Economy, Ecology, Politics)
- Go regularly back to the question
- Note ideas, elements, ... down on post-its or a paper

*See below for a list of research materials I suggested to students related to this example.

'Scenarios are a combination of estimates of what can happen and assumptions of what could happen: a science and an art.'
(Gosselin & Tindemans, 2010)

Analysis phase

- Next, I give the instruction that they should identify driving forces, i.e. the underlying drivers/factors that shape trends, that give direction to trends
    - Use terms that are free of any norm/value
    - Terms are equal
    - Terms are mutually dependent
- Next we examine the quadrants and the group makes “scenario groups”



Design Phase

In this phase, I ask students to elaborate 4 small scenarios: this Leeds to include a character, a context, scenario-specific trends..

Reflection Phase

- In this phase, we reflect upon the scenarios in group.
- I ask every group to share their scenarios.
- Next, we assess the scenarios: which scenarios would you prefer? what contemporary trends do you recognise in the scenarios?
- In this phase, I encourage students to take a stand, to make their stand explicit and to put forward arguments that can be used to support their position.

*Further suggestions for readings provided to students in this example:

- Barber, M., Donnelly, K. & Rizvi, S. (2013). *An avalanche is coming. Higher education and the revolution ahead.* IPPR.
- Dhert, S., Hermans, K., Smits, B. & Wouters, R. (2013). *Leren uit de toekomst. Aan de slag met scenario’s in het onderwijs.* Leuven: LannooCampus
- Perkins, D.N. (2015). Futurewise. Educating our children for a changing world. Jossey-Bass

16

Petal Debate

Introduction

Petal Debates facilitate decision taking by developing in small group and plenary a "compelling argument" and a constructive debate.

The goal of this method is that students learn to argue and to convince each other of something. Ideally, this method leads to a supported decision.

Students prepare by elaborating the subject and their arguments in small groups based upon a certain question or challenging problem. Each group appoints an ambassador. These ambassadors discuss the arguments adopted by their group and try to convince each other of the value of their arguments. The other students observe and note their concerns, questions, critical viewpoints, etc. The next step is that the ambassador goes back to his/her small group and they discuss the newly presented arguments and decide their point of view. Then the ambassadors gather again.

Practicing and observing go hand in hand in this method which is very powerful.

For students it is important that they know a lot about the topic of the question or challenging problem so that the discussion gets to a deeper level.

Aim	To process and deepen comprehension of newly learned subject content.
Target group:	Different disciplines, specifically subject areas where students need to learn decision-making skills in group settings in order to act/improve/give advice
Intended learning outcomes	
• Subject knowledge, understanding and strategies in dealing with heterogeneity and diversity in groups are reinforced, accommodating multiple perspectives and views on a specific subject. • Students learn how to build a "compelling argument", to bring together and express a variety of different points of view, ideas and reactions to a topic. • Students develop the communication skills of active listening and the capacity for clear expression. • Students learn how to express their own point of view and to present collective opinion in plenary settings. • Students learn the value of collective knowledge.	

Description

Prepare the classroom for group discussions of 4/5 students around a table. Each single discussion group is called a 'petal'.

Choose the subject topic/challenge/decision to be taken

Write a question/challenging problem on a chart on each table

Provide the instructions:

- students have to define a stand, a proposition, a solution in their petals.
- students should appoint an "ambassador" to go to the table with other petal ambassadors to argue their position.
- in preparation, students elaborate carefully the arguments by tapping into the acquired content of a subject, considering opposing arguments, difficult questions. They must come up with concrete ideas, solutions, and possible changes to make this proposition acceptable for everyone around their table. Students take notes (main ideas, core concepts, connections, …) of this preparation on a chart.

The table "ambassador" then comes to the flower's centre and for a period of 15 minutes, they share and debate their idea/proposition. The other students listen actively and they can note their reaction, ideas and amendments or new propositions. The centre can try to find a common proposition with concrete changes. If the proposition is not shared, ambassadors go back to their "petal" they negotiate their proposition, people are more open to reach consent or even consensus because they know clearly the process with other ambassadors. Sometimes, a third round is needed to refine the stand/proposition/opinion.

The teaching staff member visualises the centre debate with words, drawings, …

It can be an open ending after two or three rounds: the staff member can make notes of the debates and come to a conclusion with the last centre debate. In some cases nevertheless it can be interesting to give the instruction that a decision needs to be taken that has the consent of the whole classroom. The ambassadors might need to go back twice or three times to their petals to adapt and nuance their opinion/proposition.

Preparation	Time is needed to decide topics and to set up the room: • to arrange tables in circles, they are petals of one flower and at the centre there are chairs (same number as tables) • to post colourful paper to visualise different topics and keywords in the petals • to arrange a paperboard for drawing and writing the main ideas arising from the centre discussion.
Required resources and equipment	• A big room • Questions or challenging problems on different charts • More chairs then students

	• Colourful paper • Paperboard • Notebooks for students • Furniture set up for group work.
Success factors	Clear communication is required for this method to be successful, i.e. focus on giving opinion, being present, keeping it short, being aware of interrupting (the last part of a message often contains important information), asking people how their messages are connected to what has been said before, speaking in first person singular (not third, or 'we', or others) and directly.
Advantages	Students can practice debating in small groups. Only those who are comfortable with it can show their debating skills for the whole group. The others can learn a lot by observing.
Disadvantages	Debating can be difficult for students and has to be learned in many cases. It might be very helpful to make students confident first with debating skills to avoid this being a disadvantage.
Additional information	It can be really interesting to add graphic facilitation/visual support during the debate in the centre to collect and highlight ideas in drawings. In this prezi you can find a brief summary of the method 'Petal Debate'. In this link you can find '5 tips to properly argue your point'.

Practicing and observing go hand in hand in this method which is very powerful.

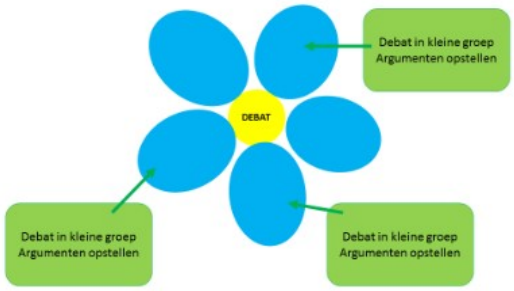
Example

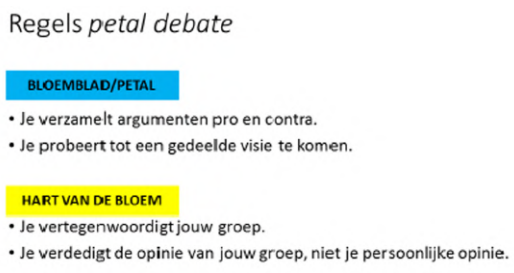
In UCLL, Els Verlinden has been trying out the method of Petal Debate during a history lesson on 'Democracy in Athens (5th century B.C.) and today'. During this lesson, students took part in a debate on the current state of democracy in Belgium.

The intended learning outcomes for this lesson were:

- Students understand how democracy in Belgium works.
- Students can analyze the democratic and non-democratic characteristics of Belgian democracy.
- Students are able to form an opinion on the different propositions concerning democracy in Belgium.
- Students are able to express their opinion in a correct and well-mannered way.
- Students are able to defend their opinion by using correct and relevant arguments.
- Students get to know a method for organising a debate in class.

Here are the steps Els took when organising this session

Preparation/homework: students got a list of propositions concerning democracy in Belgium. They had to read these propositions at home and search for arguments pro and against (regardless their own opinion). To conclude, they had to form their own opinion on each proposition. If needed, they could also consult a text on Belgian democracy.	
1. At the start of the lesson, students were divided in four groups (of four students each). These small groups are called 'petals'. Instructions are given.	Discussie/klasgesprek • Groepen van 4 • Pro en contra argumenten opstellen
2. The first proposition was discussed in the small groups/'petals'. Students formulated arguments pro and against, different opinions were discussed. Each 'petal' had to come to a shared opinion.	*Petal debate* 

3. Each 'petal' delegated one group member to the 'heart of the flower' as a representative. The representatives discussed the proposition, they each defended the opinion of their group, they gave relevant arguments.	
4. The representatives tried to come to a shared opinion.	
STEP 3-5 can be repeated. Each time, another representative is sent to the 'heart of the flower'.	

Here are some of the conclusions Els and her colleagues reached about this method:

- It was clear that good organisation and instruction is crucial. By visualising the organisation and the different steps, students knew what to do during each step/phase.
- By giving the propositions beforehand, each student was forced to form an opinion on the propositions. Most of the students entered the classroom well prepared. This meant that every student had to be able to take part in the debate. Thanks to this preparation, the formulated arguments were more relevant, more well-thought out, and more profound.
- Students who didn't do their homework, were clearly insufficiently prepared. In future, it would be an idea to decline participation to the lesson to students who didn't prepare properly or to give them an alternative exercise during the debate.
- Two of the intended learning outcomes were "Students are able to express their opinion in a correct and well-mannered way" and "Students are able to defend their opinion by using correct and relevant arguments". To attain these goals, I explicitly stated the rules. Students sometimes had to be reminded of the rules.

17

Storytelling

Introduction

The storytelling method is very suited to the introduction of new subject content or specific subject issues. It stimulates more than the cognitive: different senses and emotions are tapped into for students which supports the learning process. It also engages attention more than a purely technical explanation alone. This method can also be used to deepen students' understanding of introduced subject content by making them create a story on the subject content or part of it.

Creating stories of subject content requires expert knowledge and understanding of the history of the content, the context, the connections to other subject areas or disciplines.

Stories can be chosen from or inspired by existing stories in a book (e.g.; autobiographies, non-fiction, …) or can be completely invented by the teaching staff member. You do not have to learn the story by heart. It might be necessary to prepare it on paper, e.g. 2 sides A4 paper with the sequences, quotations.

Test the quality of the story before telling it with e.g. colleagues, family or acquaintances.

Aim	To stimulate different senses and emotions in order to support the learning process
Target group	All disciplines can integrate storytelling as a way of teaching new content to students or to process newly learned subject topics. This can be done with small as well as big groups (in auditoria).
Intended learning outcome	
• Students understand the subject content better because the explanations come with more than only cognitive information. • Enhanced ability to link information to lived experiences, prior knowledge and insights. The learning process is supported by remembering feelings, details, connections, atmosphere, images of recognisable situations,… • In the case of students creating stories on subject content, they build self-presentation skills, social skills, understanding the history, background and structure of the context of the subject content, connection in events related to the subject content.	

Description

The staff member tells a story on a specific subject or content area lasting at least 10 minutes but no longer than 20 minutes.

There are different styles of storytelling. A story should be presented in a way that emphasises the "what" of the story and not the "how" of the telling. It is important to create a relaxed, informal atmosphere (e.g. students sitting in a circle, semi-circle; indoor or outdoor). For the first time, the staff member has to lead the story. It is suggested that he/she follows the following general guidelines:

- Relevance – an existing story can be selected or the staff member creates a story/a narrative herself/himself using analogies or metaphorical narrative elements. It is important to keep in mind what's interesting to the listeners and at the same time important moments/issues in the development of the subject content.
- Consider the structure of the story: "Once upon a time…", describing context, protagonists, antagonists, threats, difficulties, …
- Editing: if a sentence, no matter how excellent, does not illuminate the subject in some new and useful way, scratch it out.
- Passion: Why must you tell this story? What's the belief burning within you off which your story is fed? Use non-verbal and para-verbal (intonation, voice volume, …) elements and moments of silence. Make eye-contact with students. Impersonate personages if suited. Use gestures and move around.
- Being yourself: What personal experience or emphasis that is linked to the subject content can you integrate in your story? The staff member has to speak slowly and clearly. It is important to give the students time to think, ask questions, look at the pictures, make comments.

It can help to present pictures during the story at crucial moments of the story.

At the end of the session, students should to be asked to reflect on the learning outcomes; they can demonstrate comprehension by: comparing, discriminating, predicting, sequencing, classifying, transferring information, etc. However, it is advisable not to ask too many comprehension questions right after the activity, it is better to leave more time for students' inner reflection.

Students are asked to then create their own stories about the subject or topic.

As a way of processing newly learned content or subject content to be learned, the teaching staff member can ask students to create a story individually, in pairs or in groups. It can be an academic article, a theory, an interpretation of research results. You could ask students to read something in preparation for the class so they can start creating a story when in class without having to read the information. Instructions could be:

- List the main ideas of the article/theory
- Indicate the target audience: to whom would you tell the story?
- Write down a sequence of scenes or events that you observe in the information learned and characters involved

- Imagine how the characters felt, what they sensed
- Think of analogies or metaphors or images
- Write a story
- Tell the story to fellow students

You could ask students to make visual media on telling the story. In order to reinforce the quality to guarantee learning outcomes when students listen to each other´s stories, you can give feedback for improving the representation of the content translated in the story.

Preparation	Make a summary of what you want to tell and in which order. Tell the story to someone familiar and observe their reactions. Measure the time you need. Make some changes if necessary.
Required resources and equipment	A microphone in an auditorium is helpful. Pictures – drawings when they support the story.
Success factors	When dividing students in groups, it helps to make sure that every group has visual thinkers, students who have strong imagination skills, who fantasise easily. Taking a kind of a pause to ask the students what they think is going to happen or what stuck with them so far, can help build curiosity and enrich the story.
Advantages	A fascinating story helps the students to remember a subject better. A disciplinary problem or question becomes more recognisable.
Disadvantages	This method requires imagination capacity from the teaching staff member which is not always easy to start with. What can go wrong includes a lack of “presence” on the part of the teller, unclear or quiet voice, too much repetition, a muddled storyline, absence of helpful body language, monotonous telling, not believing in the story told can be observed by disengagement, lack of support of movements, … This could be solved by using digital tools when storytelling.
Additional information	On the following link you’ll find instructions to develop storytelling skills and how to integrate them in your lessons. Here is an explanation as to how stories make our brains work better for learning. TALES project, 2015. Stories for learning in European schools. LLP Grundtvig project. [online] Available here. A further explanation of how digital storytelling can be an effective pedagogical tool.

Example

Here is an example of how the Story-Telling method is used in UCLL as part of the **Teachers of the world** module which is taught by Mieke Van Ingelghem, Jo Van Dessel and Karine Hindrix. This module is part of the Bachelor of Education: Primary Education, 3rd year course which is taken by about 80 Teacher Education students.

This part of the module is focused on the European integration process. In it the major European institutions (OECD, Council of Europe and the European Union) are elaborated with a focus on education and culture. Students are expected to know the history of Europe when they finish secondary education. Often this is not (sufficiently) the case. After years of spending more than an hour of teaching on the European integration process, we decided to try the storytelling method. To do this, the teacher has 'translated' the history of European integration and supranational and intergovernmental decision making into a more recognisable real life situation at local level. Telling this story is how we start work on helping students familiarise themselves with the three European institutions.

This year, we will do it in a flipped classroom-way: The story will be delivered via video that students have to watch beforehand with some questions to answer during the video to check how the story connects with reality and key elements of the history of European integration.

Here are the steps we take when implementing this method:

The teacher tells the story, which follows in summarised form.

- Once, in a beautiful country, there was a small community where neighbours lived peacefully together. Neighbours came and went, some stayed for generations. At a certain moment the son of well-respected neighbours buys a big house. He does major renovations. In the garden he constructs a pool, a wellness centre, a bar, tree houses etc. He often invites friends and friends of friends over to have a good time and to enjoy his wealth.

- After a while neighbours start to be harassed by this neighbour who gets richer and richer and more arrogant. Parties become louder and many cars are parked wildly in the streets…. soon his property is too small. He starts to appropriate the streets and, then even neighbours' gardens. The neighbours start to resist and the arrogant neighbour become more brutal and starts to annex neighbour and home spaces. There are many fights, some give up and give in, others resist and other neighbours decide to be on the side of the arrogant neighbour. Chaos ensues and economic activities are shut down (like shops because the neighbours cannot leave their houses, etc…). Neighbouring communities get involved.

- A big city (cf. USA) nearby suffers economic consequences and fears further spill over of the conflict and decides to intervene to stop the arrogant neighbour and his loyal friends. After fierce battles they succeed. The neighbour loses a lot and leaves… the community is broken and there is destruction everywhere. It is in the neighbouring big city´s advantage for economic activities to start up again. They tell the community that they will support reconstruction with resources but ask to have an organisation in which they will cooperate to rebuild the neighbourhood in which cooperation among neighbours is key. The big city participates in this organisation (cf. OEED). Initially, this works well.

- The community grows stronger again: people work together, have councils, and even organise parties and barbecues. But they feel a little bit patronised by the big city and they decide to have their own organisation. All the neighbours decide to found an organisation taking decisions for the neighbourhood by consensus (cf. Council of Europe). Because they are so many, few decisions are taken. Some neighbours become increasingly frustrated because they cannot move on with building and innovating their living together and economic activities.

- They come together and brainstorm about how they could force a breakthrough without offending any neighbours. They decide to start a new organisation with members giving away some of their private property in order to be supervised for development by this community organisation. Decision-making within this organisation is through majority voting (cf. EU) etc.

After the story, a brief discussion takes place with the students to make the connections with reality.

We told this story during the class with a few slides from reality (a picture of a European city in all its beauty, a slide of a ruined city, a slide of the Marshall Plan/OEED, a slide of the Council of Europe and one of the EU). We only used pictures in the slides. We present the slide in the back ground to support the analogy with the European integration process for the students. We dimmed the lights a little to create a cosy story telling atmosphere.

A fascinating story helps the students to remember a subject better.

18

Jigsaw

Introduction

The Jigsaw method is an efficient way to learn the course material in a cooperative learning style.

The jigsaw classroom is a research-based cooperative learning technique invented and developed in the early 1970s by Elliot Aronson and his students at the University of Texas and the University of California. Called the "Jigsaw Strategy" this method makes students dependent on each other to succeed. It divides classes into mixed groups and breaks assignments into pieces that the group assembles to complete the (jigsaw) puzzle, the final outcome. Working individually, each student learns about his or her topic and presents it to their group. Next, students change groups, divided by topic. Each member explains to the topic group. In same-topic groups, students synthesise points of view and information. They create a final report.

Finally, the original groups reconvene and listen to presentations from each member. The final presentations provide all group members with an understanding of their own material, as well as the findings that have emerged from topic-specific group discussion .In this way, students acquire information independently from the teaching staff member and supported by peer students.

Aim	To enable students to acquire information independently from the staff member and supported by their peers.
Target group:	This method can be applied to different subject areas in different disciplines. It is especially useful when a new topic is introduced that contains different perspectives or subtopics or sub-areas.
Intended learning outcome	
• The jigsaw method encourages listening, engagement, and empathy by giving each member of the group an essential part to play in the academic activity. • Group members work together as a team to accomplish a common goal; each person depends on all the others. No student can succeed completely unless everyone works well together as a team. • It facilitates interaction among all students in the class, leading them to value each other as contributors to their common task. • Students acquire information individually • Students process, elaborate and discuss the information in groups of students with the same information and task. They learn how to support one another in understanding and elaborating the content and help each other to become independent "experts".	

Description

The jigsaw method is very simple to use. If you're leading this task, just follow these steps:

- Divide students into 5- or 6-person jigsaw groups.
- The groups should be diverse in terms of gender, ethnicity, race, and ability.
- Appoint one student from each group as the leader. Other roles can be assigned to other students. (minutes maker, critical friend, time keeper, …).
- Divide the day's lesson into 5-6 segments. For example, if you want history students to learn about Eleanor Roosevelt, you might divide a short biography of her into stand-alone segments on: (1) Her childhood, (2) Her family life with Franklin and their children, (3) Her life after Franklin contracted polio, (4) Her work in the White House as First Lady, and (5) Her life and work after Franklin's death.
- Assign each student to learn one segment. Make sure students have direct access only to their own segment.
- Give students time to read/look at a video about their segment at least twice and become familiar with it. There is no need for them to memorise it.
- Next, form temporary "expert groups" by having one student from each jigsaw group join other students assigned to the same segment. Give students in these expert groups time to discuss the information related to their segment and to rehearse the presentations they will make once they go back to their jigsaw group.
- Bring the students back into their initial jigsaw groups.
- Ask each student to present her or his segment to the group. Encourage others in the group to ask questions for clarification.

As the facilitator, you should circulate from group to group, observing the process. If any group is having trouble (e.g., a member is dominating or disruptive), make an appropriate intervention. Eventually, it's best for the group leader to handle this task. Leaders can be trained by whispering an instruction on how to intervene, until the leader gets the hang of it.

Finally, organise a way for students to present what they have learned and understood in their jigsaw-group: a video, a visual presentation, … that could be shared on e.g. an online learning platform.

The first steps could also be done as a preparation by students before coming to class.

Preparation	As teaching staff member, you need to carefully consider before the lesson the chunks of information that you will put forward on a theme.
Required resources and equipment	Sources of information ready to access for students. Instruments for presentation.
Success factors	The information has to be at the level of the students. They have to elaborate it autonomously. Students must have the skills to distinguish main from subsidiary issues. It is important that there is enough time for every step to be taken.

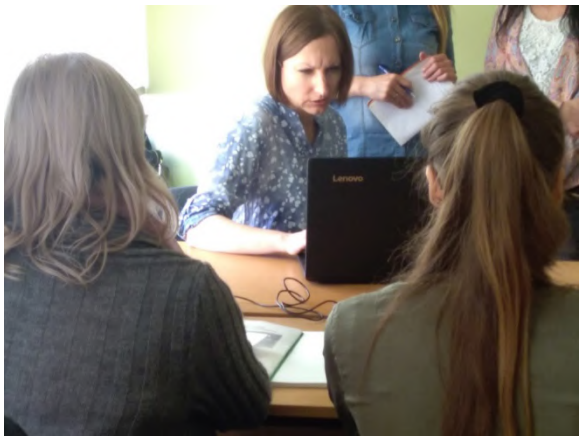
Advantages	Different students have different kinds (dimensions, perspectives, aspects) of information about a topic, which urges them to explain what they have read and understood about the topic. Together they create their understanding.
Disadvantages	It takes a lot of time.
Additional information	For more information about the steps involved in the Jigsaw method on which this description is based, take a look at this site. Jennifer Conzalez explains how Jigsaw works in this video clip.

Example

In the University of Humanities and Economics (AHE), Daria Modrzejewska has been trying out the Jigsaw method with her course on Pathologies in society.

Here are the steps Daria takes with the class in applying this method:

- Daria divides students into 5- or 6-person jigsaw groups.
- Daria divides the day's lesson into 5 segments.
- She assigns each group to learn one segment. They discuss the information related to their segment and rehearse the presentations.
- Each member of the group is given a number 1-5, then to create the new groups, all those given the number 1 come together, the number 2's come together and so on.
- Daria asks each student to present her or his segment to the group.
- To sum up, Daria creates a quiz for all the groups presented on the screen.



19

Chalk Talk

Introduction

Making thinking visible[iv] is an method that seeks to elaborate different thinking processes in education in order to obtain deeper understanding. At the heart of the method is making thinking processes visible. Charts present students´ thinking during an exploration of ideas/topics/questions. Prior knowledge, ideas, experiences, insights and/or questions are made visible. These can remain visible for the rest of the course input with respect to the subject or subject theme for which it is used.

The method requires learners to discuss these ideas, questions or problems by silently responding in writing to the remarks/ideas/suggestions/links of fellow learners. They don´t have to speak or write their name anywhere. It is a kind of a silent conversation which lowers the threshold for discussing and asking questions often experienced among students in higher education classes. It creates flexibility to move from an idea to another in a nonlinear way.

Aim	To explore ideas in the introduction of new content in order to build understanding in a collaborative way.
Target group	Different disciplines and topics of disciplines. It can be usefully applied when a subject is first introduced.
Intended learning outcomes	
• students learn to express ideas, opinions, feelings, insights and/or prior knowledge on a topic • students formulate questions on the topic and/or on ideas, opinions, insights of fellow students • students link ideas, opinions, insights and questions on a topic	

Description

Write a topic or question in the middle of a large sheet of paper (you can do this for 4 or 5 sheets of papers or even more depending on the size of your class). Use a pen that differs clearly from the pens used by students.

It can be a single word or phrase or a quote of a text, all related to a topic of study: the outcome will be more about what they know and questions they have.

Questions generate often a richer level of discussions: the outcome will reflect multiple perspectives and reactions

Organise the furniture in the classroom in a way that allows students to comfortably move around.

Present the Chalk Talk prompt: invite learners to move around, to read and add ideas, questions, connections, make it very clear that they are not supposed to talk to one another during this exercise.

Explain the system of rotation if there is any. It can be completely free or organised in a systematic way with students moving from one point to another. Make sure they remember the chart they started with. State that there are no right or wrong answers and whatever pops up in their head is interesting to link it to the questions/phrase/topic on the chart as long as it is more than a word or line.

Facilitate: ask them to consider different types of responses such as connecting ideas (and describing the connection), elaborating ideas, to add details, commenting on each other´s input, to draw if it supports them in expressing themselves. Encourage them to write more than one or two words but rather phrases/questions. Encourage them to hold nothing back and to use all the space available on the charts.

Share the thinking: after rotating students go back to their initial charts and read what others have written on 'their' chart. Ask them what themes they notice emerging. Discuss what surprises them.

Final reflection: reflect with the whole group on the Chalk Talk digging into the thinking process, asking how their thinking developed.

You can participate as a facilitator.

Students can take pictures with their mobile phone of the charts and have this digitally to add to their course materials.

When you use this as part of an introduction to a subject or subject theme, you can stimulate students´ thinking in the subject area by bringing back their attention to the chart(s) at the end of the classes. Ask students to add in another colour comments/questions/connections/… to 'their' chart (and other charts preferably) and reflect upon what has changed in their thinking or what they observe in their learning process of this topic. Get them to question what has influenced changes in their thinking?

Assessment of this exercise could focus on the relevance of the contributions, the ability to put forward their own ideas and original thinking, the ability to elaborate and to describe connections.

Thinking about thinking is not always easy for students and is something that must be learned.

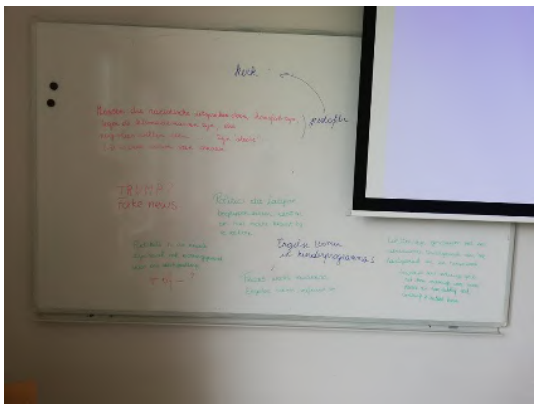
Preparation	It is important for the teaching staff member to be familiar with this approach of Making Thinking Visible and creating a culture of thinking in the classroom.
Required resources and equipment	Charts and pens (students can use their own pens). Optional : tape or other materials to hang the charts on the wall to make them visible when discussing and learning further.
Success factors	Timing for reading, thinking and commenting is very important in this method, so the success of this method can depend on how well you have considered this beforehand. 5 minutes per chart is a reasonable time for adults to spend before they become bored.
Advantages	Its open ended and exploratory nature makes it very accessible to students. It is a kind of a silent conversation which lowers the threshold for

	discussing and asking questions often experienced among students in higher education classes. It creates flexibility to move from one idea to another in a nonlinear way.
Disadvantages	Students tend to write words and lines for connections without describing the nature or refine the connection or question. Questions/phrases/quotes/topics can be too narrow and therefore stilt or halt students´ thinking.
Additional information	On this website you will find many examples of a chalk talk. This method is a way of making thinking visible. On this website you will find a lot of information about the importance of this and how to organise it.

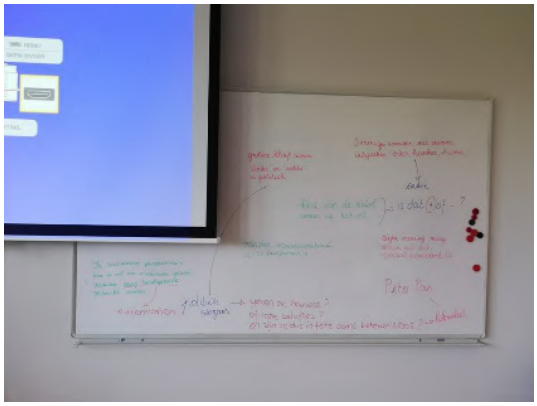
Example

In UCLL, Liesbeth Spanjers has been trying out the method of Chalk Talk in the course **Sociolinguïstiek** in which 5 students participated.

The topic of the Liesbeth's session was "Language and Nations" or how nations use language to unify or divide the population. Here are the steps Liesbeth took in applying this method:

Liesbeth illustrated the possibility of using language to create a unified population by a brief history of language use in the Soviet Union. As this example is rather unknown for the students, she introduced a Chalk Talk with the following questions: "How do you link this information on the importance of language/on the influence of language on society to life in your own society?"	
The instructions for the chalk talk were the following: "Don't talk! Write down what you are thinking or wondering about, write a question or add a comment to other people's comments, link ideas, circle interesting ideas."	

Students started to write down their ideas on the white board in complete silence. They used different colours. While reading the comments of others, they saw links and added questions, as you can see in the pictures of the white board.



After 15 minutes, students were asked to clarify their ideas and to link them to the ideas of others. It became clear that students shared similar examples, seen from different perspectives. For example: society limits freedom of speech (taboos, fear of speaking in case your opinion is different from the general public's opinion, etc)

After the presentation and clarification by the students, the lecturer had a good view on the links in the student's own lives to the topic and she understood that the topic was relevant to the students, although it is rather unknown. What also became clear was that the brief history was still vague and could be made more concrete in the following sessions.

Making thinking visible is an method that seeks to elaborate different thinking processes in education in order to obtain deeper understanding.

20

Draw Your Knowledge

Introduction

The idea behind this method is to have students use drawing as a way to tease out their underlying understanding, beliefs, opinions or knowledge of a concept.[v] These drawings can then be further used during class-time to explore the collective understanding of a new subject or as a way of elaborating students prior knowledge in a specific area. The message here to students is to be open to question, to change, e.g. a student from Leuven may well draw 'the universe' differently than a student from Capetown. Students often think that prior knowledge is something they can easily talk about, but there is much more to prior knowledge than generally considered.[vi] This method aims at elaborating such prior knowledge.

Aim	To introduce a new subject and uncover prior knowledge
Target group	For Bachelor and Master students of any level.
Intended learning outcomes	
• Enhanced metacognitive skills: self-assessment, what do I "know" (see, understand, feel, …) and what not. • Increased awareness of images, ideas, thoughts, feeling from which they speak and listen and awareness too of how others listen and speak also from their own images, ideas, thoughts, feelings.	

Description

Students take a blank sheet of paper and a pencil and are asked to draw a concept from a subject area, e.g. draw "research" or "education" or "cognitive". They then discuss the image they have drawn. It is good to do this first in pairs and compare afterwards with other pairs and/or discuss in a plenary session. The facilitator can address the most stereotypical images, e.g. for education a blackboard and he/she checks how many students have chosen that. The facilitator asks for other images and/or give other examples, e.g. a tablet, a robot, … the facilitator and students discuss why certain images are (not) used and where this is coming from.

A variation: students bring an object to class that represents their concept of a subject theme or element of content.

This technique could also be used as an assessment: students bring an object to the exam that represents their comprehension of the subject content, e.g. an object that represents the notion "curriculum" in the course "Curriculum Studies".

The facilitator leads the discussion, focusing on differences/different perspectives and similarities in prior conceptions of a theme or element of content.

Students draw and discuss their drawings.

Preparation	The facilitator needs to define a key concept or theme within the subject that will be introduced to students.
Required resources and equipment	Paper and pencil per student.
Success factors	There has to be a safe class atmosphere where students are not afraid to be criticised unfairly for their inputs.
Advantages	The teaching staff member and the students gain insight into the underlying understanding, beliefs, opinions or knowledge of a concept. Student have to think deeply about what they are going to draw.
Disadvantages	Drawing can form a real barrier for some students.

These drawings can then be further used during class-time to explore the collective understanding of a new subject...

Example

In UCLL, Ine Bogaerts has been trying out the Draw your Knowledge method in the course **Education and care policy** where 50 students participated. She adapted it from asking students to draw something to asking them to bring something.

Here are the steps Ine takes in applying this method:

During the lesson before the method was used, Ine watched a documentary with her students about several families in poverty.
At the end of the lesson, students were given the assignment to bring something that reflects poverty to them..

The week afterwards all students brought their objects and they had to tell their fellow students (the one who sat next to them) why they linked their object to poverty. They each had about 5 minutes to talk to each other.

Students brought really different things like a wallet, a package of lasagna from a low-cost supermarket in Belgium, an elastic band, a bottle of alcohol,...and explained to each other why it reminded them of poverty.



Then several students were chosen who presented their objects to the whole class.

Because students had first given their explanation to one another, the threshold of talking to the whole group was lower. There were several students who wanted to present their object and the meaning of it. It revealed really well how students think about deprivation.

After the presentation it was easy for Ine to delve deeper into the images that they used about poverty and how this opinion influences their behaviour.

Example

In the University of Humanities and Economics in Lodz (AHE), Kamila Witerska has been using the Draw your knowledge method with her teacher training course which is run with a small group of students.

Here are the steps Kamila takes with the class in applying this method:

Kamila first invites her students in groups of four to collect information of three models of education based on psychological theories:

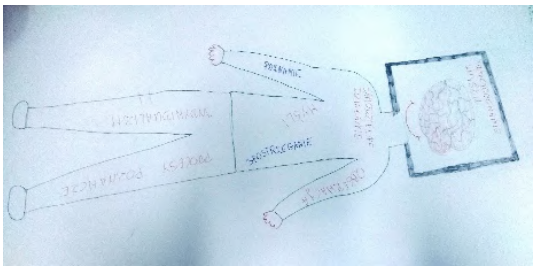
- Behavioural
- Cognitive
- Humanistic

Groups present the results of their investigation to the student group as a whole.

Students are invited to draw their knowledge, trying to find a metaphor for the model and add all the important information they can find to the model.

Here are two examples of how two of Kamila's students drew their knowledge

Humanist model



Cognitive model

21

Speed Tutoring

Introduction

The academic gives an assignment (reading a text,…) before class. In this method students are asked to discuss and solve questions and problems they have experienced with the assignment with other students. After 5 minutes they move on to the next student. A lot of questions can be resolved like this and the teaching staff member only has to discuss the questions that students can't resolve.

The idea behind this method is that the first part of the face-to-face class is taken up with short timed sessions of 5 minutes during which students ask one another in one-to-one settings questions about the content that should have been prepared by everyone before the class. They each have limited time to answer these questions and those that are not answered in this speed tutoring format can then be clarified later on by the teaching staff member with the whole class. This method fits well into a "flipped classroom" approach.

Aim	To understand subject content from texts, documents, movies, exercises.
Target group	All kinds of courses in different disciplines where students are expected to prepare something (reading, video, …) before participating in the class.
Intended learning outcomes	
• Better able to ask questions • Enhanced critical thinking	

Description

Students prepare for their participation in the class by reading a text or some other content related task. All students prepare the same content. They prepare 3 questions about this specific content in order to help them to understand it better, clarify certain aspects, etc …

At the start of the class: students sit at a long table face-to-face. They ask their 3 questions to a fellow student. They have 5 minutes together to find satisfactory answers to each question.

Some questions will be resolved, others won´t. Students move one place and face a new fellow student. Non-resolved questions are again posed. Students have 5 minutes to formulate an answer. Again, some questions will be answered, others won´t. They change places again. This continues for about half an hour. Then the facilitator checks to what extent the questions have been resolved and identifies those that have not been successfully answered.

These outstanding questions usually indicate more fundamental or difficult issues or problems that have not been satisfactorily dealt with during the speed-tutoring session. They can be addressed with the whole class group when the facilitator together with the students discusses these remaining issues/questions. Sometimes the solution is very simple and easy: e.g. students had to read research

on team teaching in schools and they struggled to actually envisage classrooms with team teaching. A short movie about a local school that integrates team teaching helped them envisage and, therefore, better understand, team teaching.

Preparation	The teaching staff member needs to suggest a text, movie, documentary before class, students need to prepare this before class.
Required resources and equipment	Class setting has to be flexible. Students have to sit at a long table and be able to move quickly and easily to face a new student.
Success factors	It's a good idea to use a text that challenges the students but isn't too difficult.
Advantages	One of the problems often associated with flipped classrooms is that students don´t prepare what is asked of them. This method forces them to be prepared when coming to the classes. It is important for the success of this method that the staff member does not interfere during the speed tutoring phase. Applying this method can mean that classes take less time and students are engaging all the time. They discuss with many more students than usual. The ask more questions than during discussions in a full classroom setting. All students are expected to contribute/support each other to deal with issues and problems concerning subject content.
Disadvantages	As a teaching staff member you do not know what is said, which can make you somewhat uncomfortable. It is difficult to deal with students who aren't prepared.

It's a good idea to use a text that challenges the students but isn't too difficult.

Example

In the University of Latvia, Dace Siliņa has been trying out the "Speed tutoring" method in her course on **Psychological aspects of peer mentor work** which is run with 30 students.

Here are the steps Dace takes with her class in applying this method:

Dace gives the topic to the students. They are asked to prepare a short introduction to the topic for the next seminar.	**Peer mentor**
They are also asked to prepare 3 questions they will ask during the discussion to each discussion partner about the topic.	**1.How would you describe to the child – what is peer mentor?** **2.What are the most popular myths about peer mentoring?** **3.What challenges might face a peer mentor in his work?**
At the start of the next seminar, students have short 5 minute long conversations about the topic with one of their peers. In these conversations, students should briefly introduce the discussion partner to his/her understanding of the topic and also ask his/her 3 questions about the topic. After 5 minutes students change discussion partners.	

22

Colour, Symbol Image

Introduction

Making thinking (Richhart, Church & Morrison)[vii] visible is an method that seeks to elaborate different thinking processes in education in order to reach a deeper understanding by making students´ thinking visible in the classroom in different ways. At the heart of the approach is making thinking processes visible.

In "Colour, Symbol, Image" (CSI) student thinking is explored, elaborated and made visible by metaphorical thinking and visual aspects, which also activate feelings, beliefs, hidden knowledge and understanding as well as the more obvious available knowledge. Metaphors are a strong vehicle for elaborating understanding of ideas. Because highly personal explanations are made visible here, students learn how different colours, images and symbols could have very different meanings to other students, indicating different ways of thinking/seeing things.

Aim	To help students reach a deeper understanding of different thinking processes.
Target group	Different disciplines and topics in disciplines.
Learning outcomes	

- Students are better able to synthesise and organise ideas and to capture the essence of ideas.
- Enhanced ability to make connections and think metaphorically about topics/subject content.
- Better understanding of a topic/subject.
- Increased knowledge and understanding of different perspectives, beliefs, ideas, feelings and meanings concerning a topic or subject.

Description

Select the specific content for interpretation and discussion, this might be a personal essay, a chapter, a poem, a speaker, a radio interview, a short film, etc…

- Set up: once students have read/heard/seen the input, have them think about the core ideas and make note of things that they find interesting, important, insightful. This can be done individually but in the beginning it helps make a list with the whole class.
- Choose a colour: each student selects a colour that he/she feels represents the core ideas he/she has identified in the content that was presented. They should explain their choice in writing.
- Choose a symbol: now each student selects a symbol and explains their selection. A symbol

- stands for something, e.g. a dove for peace, … think of different symbols in our daily life.
- Choose an image: the same for an image. This can be a photograph or a drawing of a scene. Tell students not to worry about their drawing abilities. A simple sketch could capture the idea of what is in the image. Students should again explain their choice in writing.
- Now, share the thinking: with a partner or in group, students explain their CSI. (colour/symbol/image) choice. How does it connect to the content being explored? Repeat until everyone in the group has explained their CSI choices. Optionally you could ask students to summarise their observations in this sharing with a few conclusions.

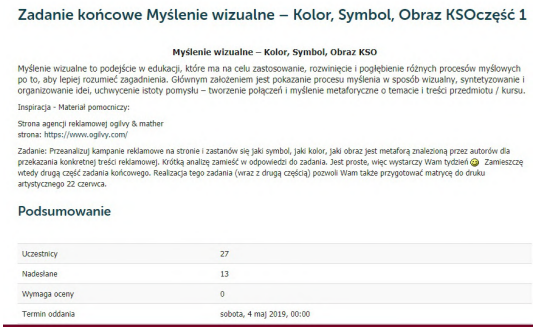
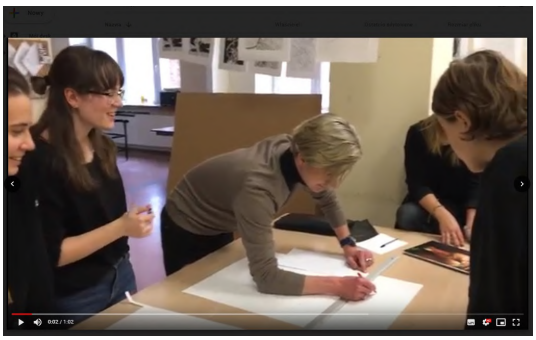
Assess students' ability to capture the essence of the content. The explanations could be assessed as insights become observable. You can also rate the quality of the metaphors (going beyond the obvious) on a scale from 1 to 10.

Preparation	Select a personal essay, short text, radio-interview, poem,…
Resources and equipment	Computers or mobile devices can be helpful for finding symbols and images.
Success factors	Colours, symbols and images are highly personal and need to be understood as an individual explanation. It is important to use a rich piece of content that has a variety of interpretations and meanings. Complexity, ambiguity and nuance can perfectly be integrated in this exercise. Try to encourage students to go beyond the most obvious choices of colours, symbols and images. Encourage them to explain their choices well by asking them to write phrases and not only a few words.
Advantages	This method can help students to describe images in words.
Disadvantages	Student might experience difficulties in the visual thinking process that is needed for CSI. They also might feel blocked because they might not be used to handling non-verbal instruments in academic learning.
Additional Information	This method is a way of making thinking visible. On this website you will find a lot of information about the importance of that and how to organise your class. Here is another useful link which covers the same topic.

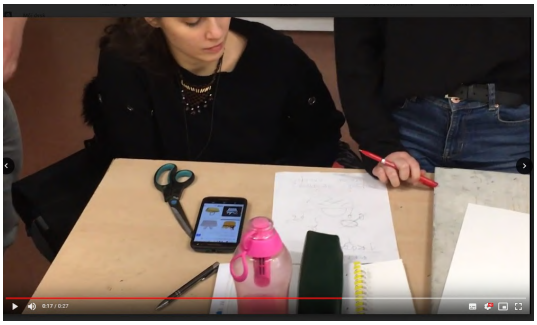
Example

In the University of Humanities and Economics in Lodz (AHE), Elżbieta Dul-Ledwosińska has been using the Colour, Symbol, Image method with her course on the Fundamentals of Design for Culture with approximately 20-30 students each year. In this example of how she uses the method, it refers to when she uses it with a course which is supported with the eLearning platform used in AHE.

Here are the steps Elżbieta takes with the class in applying this method:

First she invites participants to research and analyse websites of contemporary advertising agencies. (In this case Ogilvy & Mather in particular). Students are asked to choose one of the social advertising campaigns and to identify the main symbols, colours and metaphores used to emphasise the message. Students submit their conclusions in the form of pdf files on the eLearning platform. The same can be done in face-to-face class.	 Zadanie końcowe Myślenie wizualne – Kolor, Symbol, Obraz KSOczęść 1 **Myślenie wizualne – Kolor, Symbol, Obraz KSO** Myślenie wizualne to podejście w edukacji, które ma na celu zastosowanie, rozwinięcie i pogłębienie różnych procesów myślowych po to, aby lepiej rozumieć zagadnienia. Głównym założeniem jest pokazanie procesu myślenia w sposób wizualny, syntetyzowanie i organizowanie idei, uchwycenie istoty pomysłu – tworzenie połączeń i myślenie metaforyczne o temacie i treści przedmiotu / kursu. Inspiracja - Materiał pomocniczy: Strona agencji reklamowej ogilvy & mather strona: https://www.ogilvy.com/ Zadanie: Przeanalizuj kampanie reklamowe na stronie i zastanów się jaki symbol, jaki kolor, jaki obraz jest metaforą znalezioną przez autorów dla przekazania konkretnej treści reklamowej. Krótką analizę zamieść w odpowiedzi do zadania. Jest proste, więc wystarczy Wam tydzień 😊 Zamieszczę wtedy drugą część zadania końcowego. Realizacja tego zadania (wraz z drugą częścią) pozwoli Wam także przygotować matrycę do druku artystycznego 22 czerwca. **Podsumowanie** Uczestnicy 27 Nadesłane 13 Wymaga oceny 0 Termin oddania sobota, 4 maj 2019, 00:00
In the next step she meets students face-to-face in class. Students are divided in two groups. Each group gives the other the task to visualise the proposed message in the form of colour, symbol and image.	 Kolejną kampanią, która przykuła moją uwagę to kampania "The Voice of Tokyo". Projektanci użyli dosyć oczywistych rozwiązań. Posłużyli się jednym z najsłynniejszych obrazów, który jest kojarzony z Japonią - "Wielka fala w Kanagawie" autorstwa Hokusai Katsushika. Natomiast słowo "voice" zobrazowały usta, przez które głos się wydobywa. Ilustracja niebieskiej fali na ustach to tylko jedna z 6, które zostały użyte w kampanii. Występują też usta w kolorze białym z czerwonym sercem, które są metaforą flagi Japonii, sushi oraz ilustracja stacji metra Tokijskiego.
Elżbieta asks participants to draw symbols that they associate with the topic, think about the colour and images that represent the content of the message. Two groups present their visual work and discuss the extent to which they are clear and easy to understand without words.	

In the next step, she gives the space for creating individual visual messages. Elżbieta asks students to choose symbols refering to their thoughts and interests. Students individually create a matrix made of paper scraps/symbols glued to a plexi plate with polymer adhesive. In this case the task is given online and students submit the photos of their work on the e-learning platform.



Finally students who are willing to meet at the end of the semester in the printmaking studio can print their own graphic art works in chosen colour. The summarising discussion is run on the eLearning forum.

Making thinking visible is an method that seeks to elaborate different thinking processes in education in order to obtain deeper understanding.

23

Circle of Viewpoints

Introduction

In this method, students have to move between different viewpoints. Understanding how different actors may think and feel differently about things is a key aspect. It stimulates students to abandon their own point of view and to look for arguments for a given one. It promotes understanding of other ways of thinking and skills to form compelling arguments.

Divergent thinking is stimulated by helping students list different points of view. Next, students elaborate and question one point of view to develop a deeper understanding. Different points of view are discussed in the classroom.

This method can be used at the beginning of a subject, after reading a book or seeing a movie. It is especially interesting for controversial or complex topics. It is also helpful in the students´ process of problem orientation and formulating research questions in their research.

Overall aim	To develop understanding of a subject area: considering different viewpoints and perspectives in order to dig deeper into ideas.
Target group	Can be used in a wide variety of different disciplines and topics.
Intended learning outcome	
• Enhanced ability to take different perspectives • Greater awareness as to how others are thinking and feeling • Better understanding of a topic/subject	

Description

Choose source material, e.g. an image, story, issue or topic that is neither overly simplistic nor obvious and one that invites students to consider different viewpoints.

As an introduction, present a painting or image or multiple pictures of the same object (or Youtube movies showing different points of view in a sports game), these can serve as a starting exercise to trigger the skill of perspective thinking. Or consider setting up an object with students around it describing it from different physical points of view.

Then follow these steps:

- Set up: introduce the source material and ensure there is enough time for adequate examination/consideration; at the end of this step, make sure that you identify and name the topic(s) that students are asked to better understand. Write it on the blackboard, or chart or where ever, make sure it is visible to all participants.
- Identify viewpoints: generate a list of viewpoints; start with people but make sure you go beyond (a bird, parts of the setting, …). Actors and groups not immediately present in the

source but affected by the topic can be taken into consideration. Or actors affected at different points in time.

- Students could be supported by asking the following questions in case of difficulties:
    - How does it look from different points in space and different points in time?
    - Who (and what) is affected by it?
    - Who is involved?
    - Who might care?
- Select a viewpoint to explore: ask students (even when working in small groups) to each take a different viewpoint in order to create a richer and more complete exploration of the topic.
- Respond to the "I think…" prompt: ask students to take the place of the person or thing chosen and describe the topic from this perspective: what does the person/think about the event/situation? What are their interests? What does he/she hold to be true/believe? What might be problematic/advantageous? How does he/she/it feel and/or care about? What could he/she/it be considering? Make sure notes are being made.
- Respond to the "A question I have from this viewpoint…" prompt: students imagine what this person could ask him/her/itself or be curious about.. students formulate a question from this point of view. Make sure notes are being made.
- Share the thinking: when initially applying this method, it can be really interesting to share this in the whole group in order to coach better the process and to assess students´ thinking; ask students to introduce the viewpoint he/she has taken, state his/her thinking and her/his question. As a facilitator, document the main threads that infuse the discussion and note the differences and similarities in viewpoints.

Preparation	The facilitator needs to run through the process of circle of viewpoints before the class in order to identify different viewpoints.
Required resources and equipment	The room should be set up in a way so that students sit in circles which supports the idea of different perspectives.
Success factors	To contribute roles in case of group work helps students to pass through the process in a more disciplined manner which increases the chance of success. Give sufficient time for thinking in each step.
Advantages	When things seem black and white to students, this method can help them see different perspectives.
Disadvantages	Students may experience difficulties going to a deeper level in perspective taking. This needs to be coached and practiced regularly in order for it to become a successful thinking activity.
Additional information	Initially, the viewpoints will be very predictable: model other possible viewpoints. Asking questions is also a thinking activity that students need to learn. As a facilitator you might model asking

	questions in order to go below the surface (not only actual, concrete level, yes/no-questions, …). On this link you'll find some helpful questions to support taking a different perspective. This method is a way of making thinking visible. On this website as well as on this website you will find a lot of information about the importance of making thinking visible and how to organise lessons using this method. On this website you will find more information about the importance of making thinking visible and how to organise your class. Here is another useful link which covers the same topic.

Understanding how different actors may think and feel differently about things is a key aspect.

Example

In UCLL, Karine Hindrix has been testing the Circle of Viewpoints in a course dealing with designing a practice based research project in Teacher Education. It was tested in two classses, each of which included about 25 students who were from the 2nd year Bachelor in Education, Primary Education.

The students are in the divergent thinking-phase of designing the research process: they have chosen a research theme and are brainstorming about different topics, issues and challenges to be researched. This exercise elaborates this thinking activity.

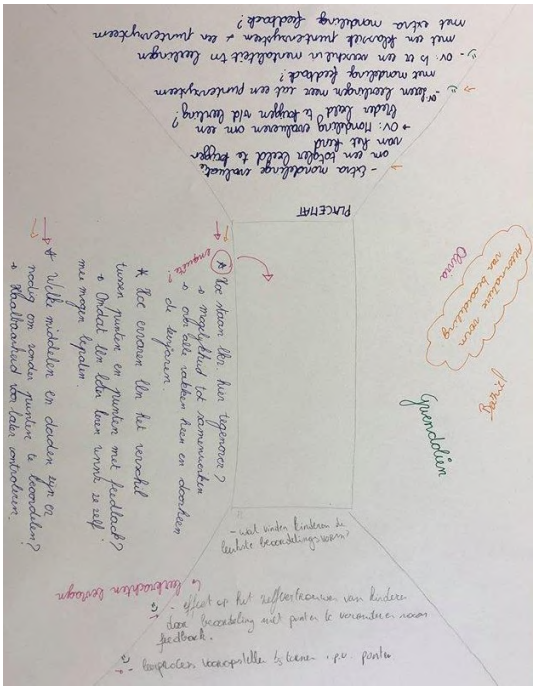
They just have listed as many stakeholders with interests in the subject area in education as possible in their mindmap. Karine then introduces the Circle of Viewpoints as the next step and here are the steps she takes:

- I ask every student in the group to choose one stakeholder, taking into account that a stakeholder is only once chosen in the group

- Next, I ask the students to sympathise with the chosen stakeholder and to look at the subject through the eyes of this actor as follows:
  - I am thinking of the topic from the point of view of ... (describe the stakeholder)
  - I think ... (Be an actor - take on the character of your viewpoint)
  - A question I have from this viewpoint is ...

- I ask students to share their ideas in the group

- Finally, we wrap up in a plenary session: What new ideas do you have about the topic that you didn't have before? What new questions do you have



Here is a sample of how students represent their Circle of Viewpoints

24

WebQuests

Introduction

A Web Quest or WebQuest is an inquiry-oriented method in which most or all the information that learners work with comes from the web. You can either set up your own web question using a simple word document or you can download different programmes which support web questions online. These can be created using various programmes, including a simple word processing document that includes links to websites. In general terms, a Web Quest is usually classroom-based and related to a specific topic or theme being studied. Secondly it emphasises higher-order thinking (such as analysis, creativity, or criticism) rather than just acquiring information in that students need to select the content they find and compare and contrast different information sources. Thirdly, usually the teaching staff member who sets up the quest will preselect sources, thereby emphasising information use rather than information gathering. Finally, Web Quests lend themselves well to group work with the task frequently being split into roles.

Aim	To increase critical thinking skills amongst students
Target group	This method can be used in practically any subject area even though most cases and examples come from the social sciences area.
Intended learning outcomes	
• Students learn where and how to process information related to a given subject • Students learn to analyse and assess information sources • Students learn the skills of presentation and conclusion.	

Description

First select a topic on your curriculum that is suitable for a Web Quest.

Now carefully design your web question. In this, you need to describe and specify exactly what the task is that you will give to students/groups and include in this specification a precise description of how evaluation will take place.

Prepare a set of online resources – the more extensive the better – related to your topic, avoid sorting and predefining the selection, leave that to the students.

Define the timescale for the task allowing enough time for the student/group to complete the task successfully.

Review and evaluate the outcomes with the students/groups.

This is intended as an out-of-class method for students to prepare in their own time. Apart from the evaluation which should be carried out in class with the whole class reviewing the outputs of the different students/groups.

Preparation	Quite extensive to enhance the chance of success but this method also provides a good opportunity for teaching staff to build up their online resources. The task description also requires some preparation.
Required resources and equipment	Good internet access available to all participants.
Success factors	It helps to have a very large body of sources already identified as this helps to build the students' selection and analytical skills. Make sure to give clear instructions as to exactly what is expected in terms of outcome and to make it clear the balance expected between increasing the students depth of knowledge in a specific subject and analysis and comparison of knowledge sources.
Advantages	This method is a great way for students to not only gather their own useful set of resources but also to contribute to the classes' resources as a whole.
Disadvantages	This method requires good analytical skills and some prior knowledge of the subject so not very useful when it comes to introducing a subject unless this task is specifically built into the process.
Additional information	This is a good intro video for Web Quests Check out this page for a handy guide to different design patterns. This site gives a good overview of the history and applicability of Web Quests worldwide as well as quite a few useful resources. This site is very useful in that it also provides a design methodology for setting up your own web quests. This is another useful site with resources you can apply:

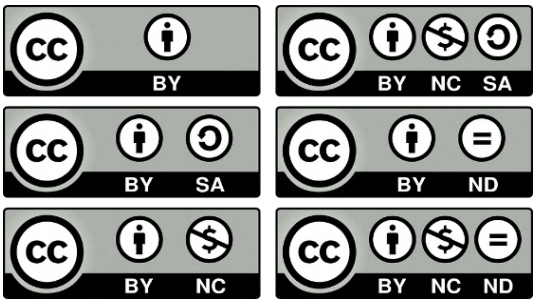
Example

In workshops on creating educational videos aimed at teachers organised by Sally Reynolds with her colleagues from ATiT (member of the Media & Learning Association), a common request is for free to use online resources. These resources include images and sound clips that can be used in creating teachers' own video based materials, usually either in the form of short documentaries or knowledge clips. A useful way to organise the selection of such materials is to plan a WebQuest.

Here are the steps that Sally takes when organising such a WebQuest:

Before the session, she prepares a "goal and rating sheet" in which she includes the exact type and quantity of resources that are required. This includes practical information about the number/duration of the required clips, the formats that are acceptable and the content areas for which they are intended (including target learners and learning goals).

Then in plenary session, she delivers a talk on copyright and the acceptable use of online content including the topic of open educational resources and introduces Creative Commons licensing.



Participants then take part in a short quiz to make sure they fully understanding what is and what is not acceptable from a copyright point of view.

Participants then carry out their research. This is initially done individually with each participant using their own device to access the internet. Participants are usually given about 45 minutes for this specific task.

Participants are then brought together in groups of 3-4 to complete their group "Goal and rating sheet" discussing each of the resources found and how they rate them in terms of usefulness and whether or not to include them.

During the closing plenary session, a spokesperson for each group presents their final agreed "Goal and rating sheet", these final resources are then shared amongst the whole group using a common platform like Google drive.

25

Virtual Field Trip

Introduction

A virtual field trip is generally understood to be a guided exploration through the world wide web which involves the student visiting various pre-determined and thematically based web pages selected by the teaching staff. Lots of different online tools and resources exist to support virtual field trips and although many of them exist to support primary and secondary education, there are also plenty of online resources that can be used to support a planned field trip that can be applied to higher education studies.

Aim	To provide access to resources, experiences, materials etc. not easily available in the real-world environments of students.
Target group	While a virtual field trip can be planned for students in practically any student area, scientific fields are particularly suitable for this type of method as it can help students experience and gain knowledge and skills in fields to which they have little access in their daily life like Astronomy.
Intended learning outcomes	
• To give students a broader and more grounded understanding of the subject matter • To help better integrate students' learning into real-life context in relation, for example, to environmental or political issues	

Description

Few academics have the resources to create their own virtual field trips or simulations although recording your own video tour and then making it available as a virtual field trip for your students is always a possibility. Mostly however academics depend on available online resources and materials, many of which, particularly in the areas of arts, culture and sciences are already available. Just type into your favourite search engine 'virtual tour' or 'virtual field trip' in the subject you are interested in and see what comes up! Virtual reality tours are also increasing in popularity.

When depending on ready-made virtual field trips or tours, make sure as a staff member that you go on the virtual field trip yourself well beforehand so you are completely familiar with that to expect. This will also help you to prepare materials on the field trip related to your own course so that is truly embedded in your course. This can include exercises that can be used for assessment purposes like an observation quiz which has the added advantage of ensuring your students stay very focussed.

Preparation	Being 100% familiar with the online resources you make available to your students is a must in planning any virtual field trip or tour.
Required resources and equipment	Reliable internet access to the chosen materials with good audio-visual support for class viewing if relevant.
Success factors	Comprehensive knowledge of the resource beforehand on the part of the academic.
Advantages	Can introduce students to resources, experiences, materials and processes not easily accessible to them in their local environment.
Disadvantages	Can be too passive unless the academic makes sure to build in interactivity if this is not already included.
Additional information	Here is a good explanation of what constitutes a virtual field trip in higher education from UF in the US and includes several different examples. Take a look at this virtual tour of the European Parliament to see how the parliament works and to see a typical example of a virtual tour: This virtual field trip from Alcoa is aimed at students interested in seeing how a manufacturer works. This page and video highlight how virtual field trips can and are being used in secondary education

Lots of different online tools and resources exist to support virtual field trips...

Example

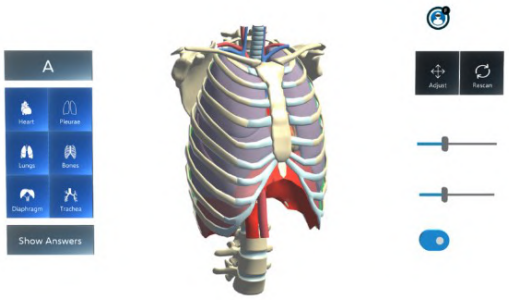
For more than four years, Leiden University's Centre for Innovation which is a member of the Media & Learning Association, has been exploring the use of immersive learning opportunities in higher education. As part of this work they have developed a variety of AR and 360 VR applications which take unique learning environments such as forests, operating rooms and archaeological sites into the classroom, teaching students about the effects of climate change, the process of a kidney transplantation and the risks of archaeological field work. These applications function as virtual field trips in that they take students to places they cannot easily reach in the normal classroom as well as enabling them to experience settings to which they may not easily have access.

One of the applications that has been created by the Centre for Innovation is an augmented reality app experience which simulates the physical examination needed to diagnose various lung diseases. This was created as a Hololens application, in close cooperation with the Leiden University Medical Centre (LUMC).

This collaboration began with the following inquiry: How can doctors make a correct diagnosis from a simple complaint like shortness of breath? As a doctor, it is vital to be able to accurately diagnose patients that have breathing complaints. This process is challenging to learn, since clinical reasoning and auscultation (the process of listening to internal sounds of the body using a stethoscope) require a high level of both cognitive, psychomotor skills. The goal of the Hololens app that was developed was to explore if this technology would provide a missing link between theory and practice in the diagnostic process.

By using a real stethoscope which is positionally tracked, medical students can interact with a virtual anatomic model of a torso and listen to lung sounds recorded from real patients.

This way, medical students can practice the full process of diagnosing lung diseases in a simulated environment.



This app integrates many of the affective, embodied, collaborative and multimodal components of a real-world setting. A video about this virtual field trip app in available (in Dutch) here.

26

Ask an expert

Introduction

In this method, a subject matter expert from industry or elsewhere is invited to join the class via skype or a similar conferencing software to give a short talk on a specific subject and to respond to questions from the students. The session lasting no more than an hour, should be prepared and hosted by a small team of students, allocating roles such as moderator, recorder, etc. to specified students. It can also be recorded and used to support a discussion amongst the students afterwards.

Aim	To introduce a degree of external expertise to the lecture; to help students "situate" the topic under discussion in the "real" world; to help underscore how simple ICT tools can be used to extend a face-to-face lesson,
Target group:	This method can be applied with students at any level and in any discipline.
Intended learning outcomes	
• deepened knowledge in a specific area • increased understanding as to how this knowledge is of relevance in the everyday working life of professionals who have studied the same subject as themselves • helping students become more familiar with concepts, vocabulary and settings in the work context	

Description

First identify a suitable expert, check amongst alumni, conference speakers, local entrepreneurs and other contacts for people who may be interested. As the tool proposed (skype) is commonly used throughout society including working life, it is usually quite easy to set up such an appointment.

Then prepare for the speaker - this should be done by the staff member and the relevant student group so that issues like the way the expert will be introduced, the topic to be covered and practical issues like whether presentation software is foreseen are all dealt with in a satisfactory way.

It's a good idea to prepare the questions to be asked and to use this as a way to review students' ability to make abstractions and other higher order skills. Make sure to run a test session with the expert beforehand in the same setting as planned for the actual intervention. It's also important to agree the exact length of the intervention with everyone beforehand as well as the status of any recordings, checking for example whether the expert agrees to have any resulting recordings, ppts etc made available to the wider public.

If the students are involved in preparing the expert then they will need to prepare a list of possible questions and other guidance for the expert.

As facilitator, you need to ensure the expert stays “on subject” and be prepared to intervene should the expert veer off topic.

Afterwards students can be asked to prepare short summaries of the talk in order to ensure they remain as focussed as possible.

Preparation	The staff member needs to find a suitable expert and to prepare both the expert and the student group as described.
Required resources and equipment	Reliable internet connection, suitable hardware to display the image of the expert and to ensure he/she can hear everything including questions asked by the students. Make sure to do a test beforehand with the equipment that you plan to use to be sure everything is working properly, i.e. that everyone can hear and see the expert and that the expert can hear and see the students. .
Success factors	Making sure that everyone can hear clearly what the expert has to say and for the expert to hear clearly what the students have to say is vital for the success of this session, so too is good preparation and selecting an expert who is appropriate, engaging and enthusiastic about the subject.
Advantages	This method can bring very valuable external experience and expertise into the classroom. Organising it with a tool such as Skype also means that the expert can do it without having to give up too much time.
Disadvantages	Remote presentations can sometimes lack the dynamic of direct face-to-face talks.
Additional information	When looking for experts to contribute to a specific lesson, check with the local chamber of commerce who often have lists of companies sorted by sector in the region. When using skype or any other online synchronous tool, make sure that you test the set up beforehand. For skype you will find out how to do a test beforehand here.

Example

In UCLL, Ine Bogaerts, Sara Vreys and Izabel Janssens have been trying out this method in the course **Education and Care Policy** in which 120 students are enrolled.

Here is a description of how they put this method into practice:

- They began by deciding on a suitable opportunity to involve experts. They choose what is called the “Day of Care”which was organised in December 2018. On this day 12 experts were invited to give a talk on different themes in care like “the care policy in a secondary school”, “teaching in Brussels”, “liberty in education”, “pupils with special needs”. Participants were to include staff from care facilities in the neighbourhood. This day is in the academic calender so each student is available to participate.
- They began organising this day in September 2018 with a brainstorm about who to invite. Once agreed, they divided the responsibility for contacting the experts amongst the colleagues n the organising team. Deadlines were set and further meetings planned.
- When they contacted experts they discussed when they were available to participate, the purpose of the talks and provided background on students’level of knowedge and experience related to the topic as well as where the students were in trelation to the curriculum. It was important that the experts knew what the goals of the talks were and how much time they had exactly.
- When all experts confirmed, a schedule was created and students could choose which expert they wanted to hear.
- A week before the “Day of Care”, the organising team contacted each expert again to give the exact time, the classroom and the room where they would be taking part. One collegue forgot to take this step which meant that a day before the event one of the experts had to withdraw due to a misunderstanding about the date. To fill in the gap a colleague was willing to give a talk on a theme in which she was an expert.
- In the class a week after the “Day of Care” students evaluated the different experts. They found out that one expert just needed half of his time.
- In conclusion, the organising team agreed that it is really important to talk with the experts and give them the right time slot and the goals of the talk. They also learned that it is difficult for some students to listen for 1,5hours. It is important that activities during the talk are included to ensure students are really activated.

27

Word Webs

Introduction

Word Webs is a method which can be used before, during or after a class and either individually or in small groups. Essentially the idea is to take a word, concept or issue and to make a word map of all the words related or connected to it and then to group or sort the different batches of selected words.

There are two general ways in which to apply this method, either in class using simple post-its on a wall and asking students to work in groups to work together on analysing a word, issue or concept or to use an online mind-mapping tool in which case the method can be used in remote and online settings, both synchronously or asynchronously. Groups can either tackle the same word, concept or issue and then compare results afterwards, or they can take ones that are different but complementary.

Although this is a relatively simple method, it can be very enlightening and, particularly if used in a small group setting, can help students in a very significant way in terms of situating what it is they are studying.

Aim	To help students broaden their understanding of a concept or issue; to extend their vocabulary in the case of language learning; to support group understanding of a specific field of study.
Target group	Word Webs are particularly suitable and useful in language teaching. They can also be used when getting across complex terms and concepts in, for example, engineering or philosophy. In terms of level, they can be used at all levels of learning.
Intended learning outcomes	
• Better understanding of a specific word, concept or issue. • Enhanced ability to situate a specific word, concept or issue	

Description

As already mentioned, this method can be applied in different settings, most often in either a class or online setting. So the different steps you take will obviously depend on whether you are working online and asynchronously with your students or in a face-to-face setting.

If being used in class, we suggest applying the method as follows.

- Start by setting up groups aiming to have a max of 4 students per group
- Agree the procedure and timing,
- Allow students to develop their mind map with the rest of their group.
- Ask the group leader to summarise results for full class.
- As the facilitator you need to supervise and guide groups as and where necessary.

Preparation	Depending on the setting, preparation to use this method is quite limited. If using software then you need to be fully familiar with its operation, how content can be saved and retrieved for example
Required resources and equipment	Any freely available mind-mapping software can be used to support this technique, MindMeister or bubbl are good examples of such software.
Success factors	The relevance and pertinence of the word, concept or issue is a success factor in this technique.
Advantages	This a very simple method to apply which requires little preparation and can have a significant value in terms of helping students better understand a word, concept or topic.
Disadvantages	Groups such as the ones suggested for a class setting can be dominated by one or more students, ensuring that everyone's opinion or input is included can be a challenge, one way to overcome this is to ensure the role of spokesperson is regularly rotated away from those students who usually offer themselves in such roles.
Additional information	This short video gives a simple explanation of how you can use word webs in your teaching practice. On this site you can see how word webs can be used to enhance students' ability to hear, appreciate and understand different perspectives through new vocabulary.

Example

In the University of Latvia, Līga Valinka has been using the Word Webs method with her course on Emotional intelligence which is run with 12 students. In this example she used Word Webs with students to explore the notion of joy as an emotion – what is it, where does it comes from etc.

Here are the steps Līga takes with the class in applying this method:

Before the lesson students were asked to prepare a word web about the term "joy", using the app bubbl.us. They were given examples like this one from bubbl.us to have a better idea as to what was expected.	
Students worked individually and brought their homework to the next lesson.	
During the next lesson they began by discussing their homework in groups of about 3-4.	
The group leader then presented the main results and ideas to the rest of the class.	

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Video catch-up

Introduction

In video catch-up students are asked to create a 3 min video in which they summarise the main points of a specific lecture as if to another student who wasn't able to be there. Students are asked to use their own mobile phone to do the recording in which they simply speak to the camera giving a short summary of what the lecture was about. In it they should be asked to introduce themselves at the start, give a short summary of what the lecture was about in which they cover the main themes and to finish with a statement about what they found most interesting/challenging/relevant in the lecture - i.e. to finish with something that can be understood as their opinion. This kind of technique lends itself well to a competition and also to peer evaluation if that fits within the overall course structure.

Aim	To help assess the degree to which students have captured the essence of a lecture; to assess the extent to which they can adopt a critical position in respect to the content under discussion; to help students improve their presentation skills including their ability to distil and summarise a topic; to support their audiovisual production skills.
Target group	This method can be used in practically any disciplinary setting and at any level. Applying it in lower levels has the added advantage of helping to instil at an early stage the skills of deduction and presentation, while at the more advanced stage it can be helpful particularly in dealing with topics and subjects that experience has shown to be challenging.
Intended learning outcomes	
• Better understanding of what the essential elements of any given lecture have been • Enhanced ability to formally present own opinion to camera • improved audiovisual production skills	

Description

Introduce the task to students making clear what the parameters are to them, explaining the degree to which their productions will be accessible to others and the extent to which they will be evaluated. Also agree where these videos will be made available for one another to view.

Identify the lecture for which they are expected to create their video catch-up recording – this could be spread out over a term so different students are responsible for different lectures.

Support students in their recording, you may need to offer general support and advice on video production although the idea is that these recordings should be very simple and short presentations

to camera making use of the student's own smart phone. Review the results and provide feedback to the individual student.

Set up peer assessment/evaluation if appropriate.

Preparation by teaching staff	Very little preparation required on your part while students needs to prepare and record short video clips.
Required resources and equipment	All students need to have access to a smart phone that allows for easy audiovisual recording. Once saved they can be sent to the lecturer who may in turn decide to upload all videos to a shared (but private) video space so everyone in the class can review and, if relevant, assess.
Success factors	The extent to which students are familiar with recording themselves in presentation mode can be a factor in determining the success or otherwise of this method.
Advantages	Not only does this method help students learn how to distil and summarise, but it can also greatly enhance their presentation skills.
Disadvantages	This method can be challenging for students who find presentation of themselves difficult in other settings although sometimes, the intimacy of doing such a recording usually alone and with your own device, enables such students to feel more comfortable.
Additional information	If you would like to point your students to a place where they can find more information on recording simple videos on their smart phone, then take a look at the resources available on Mobile Journalism (MoJo) here: If you are looking for a channel where you can more easily set up a private viewing space, then consider Vimeo.

Example

In UCLL, Ine Bogaerts and David Stienaers have been trying out the Video Catch-Up method in the course **Teaching Methodology** Latin in which 4 students participate.

Here is a description of how they applied this method:

There was one student absent in a lesson that introduced the theme formative assessment. It was important that all students were familiar with this topic in their internships. When the lesson began, Ine and David told the students that they had to make a video of what they learned in this lesson, a video catch up, to help a fellow student learn what he missed in class.
After each part of the lesson they gave students time to note some core ideas. However students got a little bit nervous about the assignment of making a video so the students were reassured that they would be given enough time and that they could use the powerpoint to support them in making the video.

In the last 15 minutes in class students were given time to prepare the video and make it. They began with a mind map of everything that was studied during the lesson. Next they divided who was going to say what. This took about 10 minutes.

You can watch the video produced by the students in this example here.

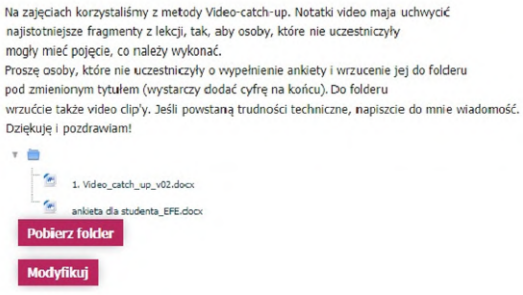
Ine and David noticed that students were very nervous and they wanted to repeat exactly what was on the powerpoint. Theyhad to emphasise more that examples that had been discussed would have been more useful for the absent student and that the video could be more personal on what they learned from the lesson and not what the teaching staff wanted them to learn in class.

Example

In the University of Humanities and Economics in Lodz (AHE), Elżbieta has been using the Video Catch-Up method with her course on **Fundamentals of Graphic design for Culture Study** which is run with approximately 20 students. In this case the description refers to the class supported with the eLearning platform.

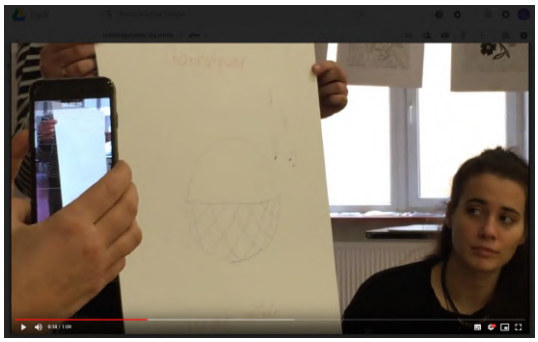
Here are the steps Elżbieta takes with the class in applying this method:

First she asks students to use their mobile phones and take digital notes during the class.



After the class students post their video notes on the eLearning platform.

Students use WeTransfer to share their video notes so they are available for everyone in the class.



29

Class wiki

Introduction

A wiki is a website on which users collaboratively modify content and structure directly from the web browser. Creating your own wiki with your students enables you to co-create much of the (ancillary) material of your course with your students. It can also have the added benefit of being available for the following cohort of students so that they too can contribute and expand on your wiki.

Content can be added either individually or in groups and can then be assessed for suitability again either individually or by group. Specific assignments related to topics or issues can be allocated and it lends itself very well to courseware which is particularly resource and reference rich. This method is probably best applied to modules or course units rather than individual lectures as it can be quite time-consuming. You can also use it as a way to assess students formally and informally where the quality of their input to a specific topic can be evaluated.

Aim	The aim of this technique is to foster a spirit of collaboration amongst students and to enhance their general co-creation skills. It also can enhance their knowledge of a subject and help to teach them the necessary critical skills they require to filter and qualify information available online.
Target group	Creating a class wiki can be applied in any discipline and at any level. It is, as already mentioned, best applied to a significant part of a course as it can be quite time-consuming and to ensure students fully benefit from its use, it should be available for quite some time after the course is over.
Intended learning outcomes	
• extended knowledge in a specific discipline • enhanced ability to collaborate and function successfully in a team • better ability to successfully co-create content with other students	

Description

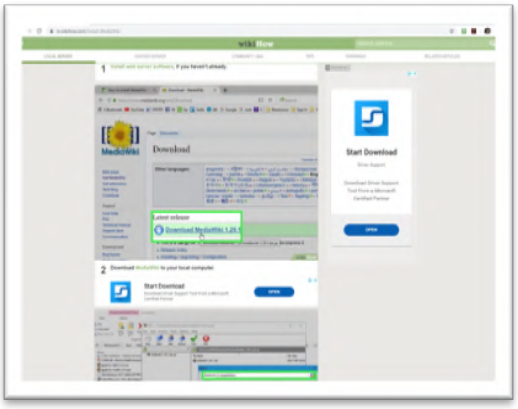
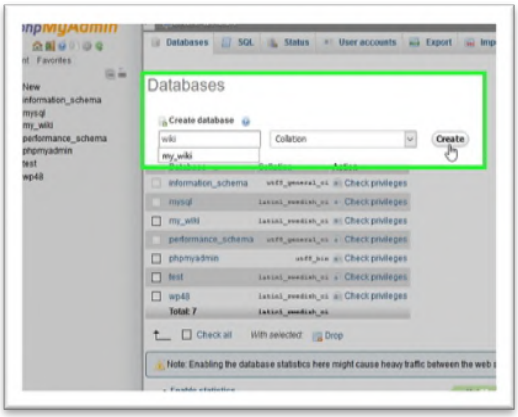
Once operational, students are expected to contribute to the wiki on an on-going and often specified basis throughout the lifetime of the course. The scale and quality of their contributions to such a wiki can be an assessment criteria.

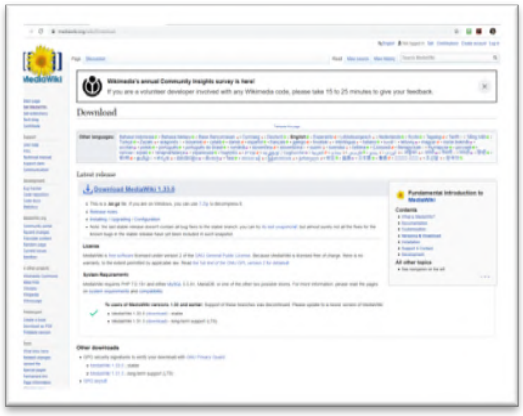
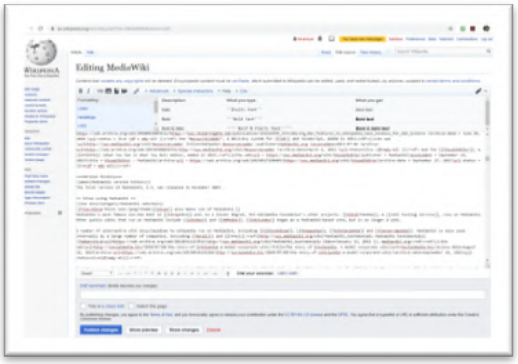
Preparation	Setting up the wiki before launching it with your students is obviously important as is making sure you are familiar with how to add and edit in a wiki.
Required resources and equipment	Set yourself up with Mediawiki and learn how to use it for your classwork. MediaWiki is a free server-based software. Its pages use MediaWiki's wikitext format, so that users without knowledge of HTML or CSS can edit them easily.
Success factors	Language can play a role in the success or otherwise of a wiki in that students who are multilingual can identify resources in languages other than that in which the course is being delivered and so contribute to the content availability. Students skills in finding, selecting and referencing online materials is also a factor that needs to be considered.
Advantages	Setting up a class wiki means that you can collate all relevant online resources and do so in a manner that enhances students collaborative and deductive skills.
Disadvantages	A wiki can become too extensive and distributed unless care is take to scaffold the information it contains carefully right from the start and to plan in regular review and editing opportunities as part of the maintenance of the wiki.
Additional information	The Bookshelf project provides a step by step plan for setting up and using a wiki in your course, take the time to go through it here. Vanderbilt university has a very useful page with lots of links about using a wiki in your teaching here. This short video by Vanessa Van Edwards, explains what a wiki is and how it can be a beneficial educational tool for teaching staff. Wikipedia is the best known of these projects and is a free and open encyclopaedia where anyone can view and edit content. It is edited and written collaboratively by people from all over the world and anyone can edit and contribute. Note, wikipedia is not considered a reliable source by many academics and academic institutions because of its open nature and the fact that anyone can adjust and change information, so you should always check your sources carefully and do not depend exclusively on wikipedia for references. WikiEducator is a community project working collaboratively with the Free Culture Movement towards incremental development of Open Educational Resources, aiming at building capacity in the use of Mediawiki and related free software technologies for mass-collaboration in the authoring of free content, developing free content for use in different education settings.

Example

Mathy Vanbuel from ATiT, which is a member of the Media & Learning Association, has also lectured in the Interfaculty Maastricht, a cross border initiative from three Higher Education Institutions in Belgium, Germany and The Netherlands. During his module on Design for eLearning with students from 3rd and 4th Year Bachelor in Communications and Media Design he set up a wiki with his students as part of their course. Instead of using a Virtual Learning Environment (such as in this case Blackboard) with all its related management issues when working with students from different institutions, a private class wiki was set up. Privacy is important: students feel more free to write and demonstrate what they learn or where they feel they need more help.

Here is how to manage a class wiki:

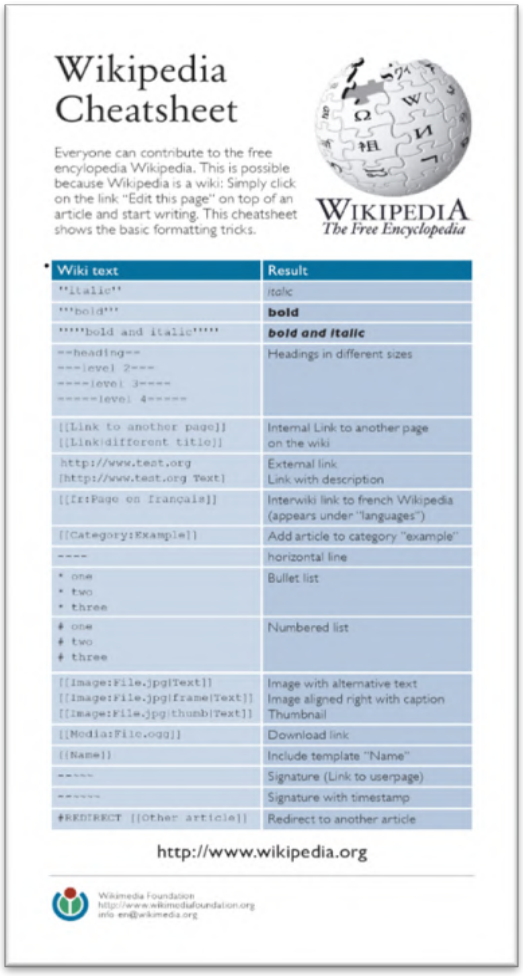
Before the start of the module, a Wiki server has to be set up: the software Mathy selected is MediaWiki, a free and open-source software that is also used in Wikipedia and which is therefore a familiar format for all users. Get support from your IT department if you are unfamiliar with server software installation (LAMP, WAMP or similar). For instructions go to this site.	
Set up a MySQL server and create a database.	

Download and install MediaWiki	
Add your users (students, teachers, tutors and possibly others who need access) to the Wiki and give them the appropriate user rights: all students are able to edit the wiki pages.	

Students skills in finding, selecting and referencing online materials is also a factor that needs to be considered.

During the first face to face class, instruct the students on how to use the wiki:

1. The class wiki will be used as the exclusive source of course material: all teaching and learning materials will be created collectively by teachers and students and posted on the wiki. It is a collective responsibility to keep the wiki up to date, complete, clear, correct and well constructed.
2. The students get an introduction in wiki editing. (As this largely resembles ordinary html code, this is not an issue for most)
3. Progress and contributions of all students will be monitored on the wiki (all edits are visible to the teachers who have admin rights). Wiki vandalism or sabotage will be sanctioned with exclusion from the module's assessment.
4. The wiki is in this way not only a provider of teaching materials, but the wiki invites students to create common and shared notes that can be reviewed by all.
5. Students are also requested to document all their individual and group project work in the wiki. This allows for peer to peer learning and group and peer assessment.



Wikipedia Cheatsheet

Everyone can contribute to the free encyclopedia Wikipedia. This is possible because Wikipedia is a wiki: Simply click on the link "Edit this page" on top of an article and start writing. This cheatsheet shows the basic formatting tricks.

WIKIPEDIA
The Free Encyclopedia

Wiki text	Result
''italic''	*italic*
'''bold'''	**bold**
'''''bold and italic'''''	***bold and italic***
==heading== ===level 2=== ====level 3==== =====level 4=====	Headings in different sizes
[[Link to another page]] [[Link|different title]]	Internal Link to another page on the wiki
http://www.test.org [http://www.test.org Text]	External link Link with description
[[fr:Page en français]]	Interwiki link to french Wikipedia (appears under "languages")
[[Category:Example]]	Add article to category "example"
----	horizontal line
* one * two * three	Bullet list
# one # two # three	Numbered list
[[Image:File.jpg|Text]] [[Image:File.jpg|frame|Text]] [[Image:File.jpg|thumb|Text]]	Image with alternative text Image aligned right with caption Thumbnail
[[Media:File.ogg]]	Download link
{{Name}}	Include template "Name"
~~	Signature (Link to userpage)
~~	Signature with timestamp
#REDIRECT [[Other article]]	Redirect to another article

http://www.wikipedia.org

Wikimedia Foundation
http://www.wikimediafoundation.org
info-en@wikimedia.org

Student assessment will be done on the basis of contributions (quantitative as well as qualitative). This is easily done in the admin>users section of the wiki.

30

Virtual Exhibition

Introduction

The idea behind this method is to set your students either in groups or individually the task of creating a virtual exhibition with its own website on a particular subject. Essentially the idea is to have students take on the role of curator, selecting images and videos available online with which they can launch their own virtual exhibition. This method is best suited to group work where each group agrees the different roles to be taken up from within the group, e.g. the roles of text editor, image manager, story-writer, overall producer, etc

Aim	To help students develop their own skills in curation, so that they understand how best to select and utilise images and video material to illustrate a particular subject. It also aims to enhance their knowledge of a specific subject, to improve their collaborative and digital skills and to help them build up their presentation and representative skills.
Target group	While it is often associated with studies in art history and other similar topics, this type of technique can be applied more broadly to other topics.
Intended learning outcomes	
• Enhanced visual and digital literacy skills • Increased knowledge of subject areas • Creation of a series of potentially valuable resources for possible re-use	

Description

Start by preparing all necessary information about the task, time-scale, expectations and project roles. You need to decide the timing for when the website has to be available and guidelines and conditions about how and when the site will be evaluated. When doing this for the first time, we suggest you try this out with a small group to test whether everything is clear and fit-for purpose. Make sure that the necessary technical support to host the websites that are to be produced is available.

Then launch the task with students agreeing group composition, resources available and timescale. Use the first class to conduct a brain storm amongst the students in their groups to enable them to figure out the topic of their exhibitions.

Monitor, guide and support in subsequent classes. The advantage of having these exhibitions online is that you can view progress independently and take remedial action where necessary.

Organise a final concluding opportunity with enough time to fully review and assess each virtual exhibition. Decide with the students during this closing session the status and maintenance of these exhibitions.

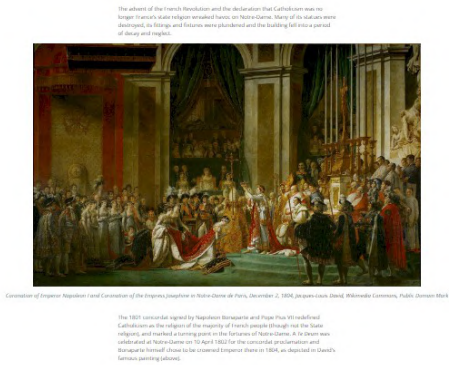
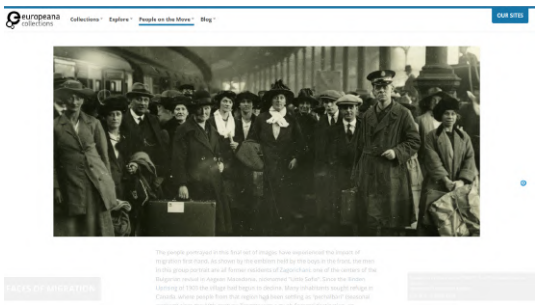
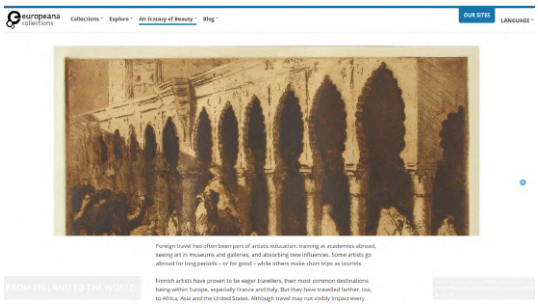
Preparation by teaching staff	The main consideration to take into account in preparation is to ensure enough information and resources are available to get students started technically.
Required resources and equipment	WordPress is currently the most widely used technology for setting up free websites. It is relatively easy to use, does not require programming knowledge and comes with a large number of free templates which makes both designing and building freely accessible to anyone. You will need to consider how and where such websites are hosted and so for this it is recommended that you talk to your university IT service provider before you get started. After that, you will find plenty of materials to help you get started just by searching under WordPress online.
Success factors	The level of digital literacy within the group is an important factor in determining the success of this method.
Advantages	This method is really useful in supporting students creativity and skills in collaboration as well as distilling a sense of ownership.
Disadvantages	Not all students will work well in this type of creative group so care needs to be taken in establishing well balanced groups with the necessary digital and visual literacy skills. Some preparatory training may be necessary to ensure the success of this method in this regard.
Additional information	This resource made available by the University of Maryland in the US includes a full lesson plan which although originally intended for secondary level, can be applied to higher education as well. This video will help you to get started with WordPress.

Example

The EUscreen Foundation, a networking member of the Media & Learning Association, is a consortium of European broadcasters and audiovisual archives. The EUscreen portal offers free online access to thousands of items of audiovisual heritage. It brings together clips that provide an insight into the social, cultural, political and economic events that have shaped the 20th and 21st centuries. As well as chronicling important historical events, the EUscreen portal allows you to explore television programmes that focus on everyday experience.

EUscreen works closely with Europeana and is currently creating a video player which can be used by people in the education sector as well as the general public to access video resources in Europeana Europe's digital library which is available here. A very good source of inspiration for applying the Virtual Exhibition method is to take a look at the examples of virtual exhibitions set up by Europeana, and indeed much of the potential source material for such exhibitions can be found via Europeana's digital collections.

Here are a selection of examples taken from the Europeana Virtual Exhibition showcase:

Rebuilding Notre-Dame "Since the construction of Notre-Dame de Paris began almost a thousand years ago, the cathedral has been a fixture of the Parisian landscape and a symbol of the French nation. Its history is a microcosm of French history - it has borne witness to revolution and political turmoil….."	
Faces of migration "The people portrayed in this final set of images have experienced the impact of migration first-hand. As shown by the emblem held by the boys in the front, the men in this group portrait are all former residents of Zagorichani…"	
From Finland to the world "Foreign travel has often been part of artistic education: training at academies abroad, seeing art in museums and galleries, and absorbing new influences. Some artists go abroad for long periods – or for good – while others make short trips as tourists….."	

31

Think-Aloud-Pair-Share

Introduction

Think Aloud Pair Share is a problem solving method which helps students tackle problems in depth by setting them up in pairs, alternating the role of problem solver and listener, to discuss in detail a specific problem or challenge. It can really help students develop both problem-solving and listening skills. The basic idea is that through their verbal reasoning, they explore and eventually solve problems for themselves and that by having a fellow student act as listener and then alternating roles, they come to a much better understanding of the issue or challenge under discussion. Recording these sessions can provide a very useful learning resource for full class use whereby students analyse how the problem solver tackled the problem, what resources they used with which to solve it and how helpful the listener was by asking them relevant and helpful questions. This is a method that normally takes up just one class period and is suitable for small and large groups.

This is a cooperative learning method that can promote and support higher level thinking. This method gives students the opportunity to thoughtfully respond to questions, reading, concepts, solving a problem, or brainstorming in written form and to engage in meaningful dialogue with other students about these issues. It is usually a short activity designed to engage students in thoughtful consideration of a topic, and may serve effectively as a warm-up to instruction and class discussion on new course material.

Aim	To help students develop and practice their verbal reasoning skills, their ability to solve problems, to analyse data and their listening and probing skills,
Target group:	This method can be used in practically any discipline or at any level. Obviously the level of discussion and the expected outcomes can evolve according as students become more familiar with the content and context of the specific subject. It is worth considering this method even with very early stage students to help them practice the skills of argumentation and listening early on in their learning path.
Intended learning outcomes	
• improved skills in relation to verbal reasoning and analysis • better presentation and listening skills • enhanced understanding of methodologies or concepts	

Description

Start by setting the students up in pairs and allocate space and time for them to 'solve' the problem

Then present the problem or set of problems to be solved, consider whether you want to give all pairs of students the same problem to discuss or different but related problems, there are advantages and disadvantages to each approach.

Divide the time evenly so that you notify them fairly and in time when the role of listener and problem-solver need to be switched.

After the allocated amount of time, allow enough time for each set of pairs to summerise their discussions within a limited period of time. Select samples or whole discussions for class reflection. In addition to engaging with course content, students can reflect before speaking, and share their ideas in a low-risk situation before participating in full class discussion. Thus, both the quality of class discussion and students' comfort in contributing to class discussion is likely to improve.

If recording these sessions, explain how and where the recordings will be used.

This method also allows instructors to assess students' initial knowledge and to modify instruction to bolster understanding and clear up misconceptions.

Preparation	Prepare the 'problem' well, explain the terms and conditions of the exercise and be clear about the expected outcomes.
Required resources and equipment	Nothing additional to comfortable and appropriate seating are required for this method to be successful. If recording, then a suitable recording set-up needs to be put in place.
Success factors	It is important that the roles are exchanged reasonably regularly, that an emphasis is put not only on the importance of verbal reasoning but also on the skills of good listening.
Advantages	This method is a good way of involving all students in considering a problem or challenge. It can be used to break up a lecture to allow students to reflect on challenging content. It allows students to negotiate meaning with each other or discuss their proposed solutions. The strategy provides a diagnostic point to ensure students are on track. Discussion can result in more student learning than some other strategies. Students verbalise their thinking, they are able to construct or reconstruct knowledge in a way that makes sense to them.
Disadvantages	If all students are engaged in this activity at the same time it can be a bit difficult to manage, consider having students take turns to go through the process although this can be overly time consuming. It is easy for talkative students to dominate. To be effective, the pairs must be able to work without interfering with one another.

Additional information	The teaching staff member could offer a participation grade tied to a short product or other output that students produce from their discussion. Or he or she might find ways to increase student awareness of the likelihood their group might be called upon to share their answer with the entire class. They might also consider using some of the think-pair-questions on exams and making it clear to students that that is the case. Here are some examples of problems that can be suitable for the application of this method: • identify the most important circumstances that brought about a specific historical event • what are the main environmental factors that have a bearing on a specific biological development • what changes need to come about to tackle a specific social or environmental problem like plastics in the sea This short video gives a good overview of the method as well as several tips and suggestions for getting the most out of it. Think Pair Share Explained: Lecture Clip: Opportunity Cost (Think - Pair - Share) In this article by Fitzgerald[viii] ix you will find an overview of the traditional Think-Pair-Share cooperative learning technique. This study by Sampsel[x] addresses the think-pair-share cooperative learning technique and its effects on students' confidence in their abilities to do mathematics and their willingness to participate in class discussion. The study found that students' participation increased, the number of long explanations given by students increased, and students comfort and confidence when contributing to class discussion also increased.

Example

In the University of Humanities and Economics in Lodz (AHE), Daria and Dorota use the Think Aloud Pair Share method in the Pedagogy Faculty with all courses, whenever there is a need for deeper discuss problems.

Here are the steps Daria and Dorota take with the class in applying this method:

<table>
<tr><td colspan="2">They start by asking students to adapt the class interior according to their needs to make the space more open and comfortable. This activity serves as an effective warm-up, supporting the friendly atmosphere and helps to start a discussion.</td></tr>
<tr><td>In the first part of the class, Daria and Dorota introduce students to the problem that should be solved, explaining the content and context. They can brainstorm the issues, ask initial questions.</td><td>  </td></tr>
<tr><td>Teachers encourage students to ask questions, engage in meaningful dialogue with other students about these issues.</td><td>  </td></tr>
<tr><td>Students then choose who they will collaborate with, it's usually the person sitting next to them. Students share their ideas in a low-risk situation before participating in full class discussion. Daria makes sure they exchange the roles.</td><td>  </td></tr>
</table>

32

Knowledge clips

Introduction

A knowledge clip is a short video recording in which the teaching staff member explains one specific subject, a particular concept or a basic principle. Such clips can be made in different ways but what is essentially unique about them as a method is that they are short, usually no more than 3-7 minutes, and that they deal with one single topic. Some course providers make available banks of such clips which build up over the years to become a very useful resource on a particular theme or subject. They can be created in different ways and by different members of the teaching team and students can also be given the task of producing knowledge clips on a particular subject themselves as part of the course design.

Aim	To make available resources that students can use and re-use when dealing with particularly challenging but important topics or subjects. Such clips are also a way of providing a uniform and high-quality explanation which gets to the essential nature of the chosen topic or issue.
Target group:	Knowledge clips are very useful when dealing with particularly difficult topics that lend themselves well to visual demonstration or explanation and which can be dealt with in a short period of time. Showing how a specific process works for example. They are less useful in topics requiring discussion and reflection. They can be created for use in practically any discipline and at any level.
Intended learning outcomes	
• Students have a better understanding of a specific subject, issue, practice or procedure	

Description

If you as the staff member are planning to create your own knowledge clips for a specific subject or course, then these need to be created well in advance of the relevant course or lesson so students are aware of their existence and then can use and re-use them at their own discretion. Creating such clips can be created in different days this includes using a video recording space for a live action recording of some type or using the lecturer's voice only along with screencasting software like Camtasia.

The steps to create such a knowledge clip are usually as follows:

- Decide on the subject of the clip – remember these are by nature short (2-4 minutes) long video clips explaining a single process, activity or item.

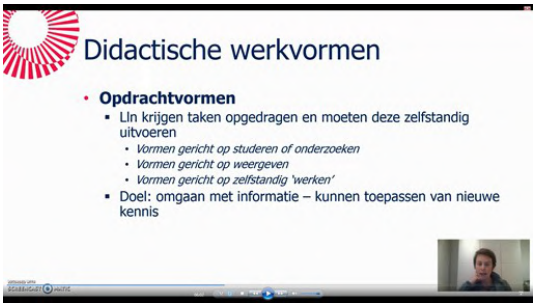
- Prepare a recording script, identifying exactly what needs to be shown/recorded in a logical and sequential manner following the format introduction (what this is about), content (the main content of the clip), summary (what you have seen).
- Record your clip making sure the text, images and audio are all fit-for-purpose and of sufficiently high quality.
- Publish your clip in a format and location suitable for easy access by students.

Preparation	If the clips are to be made by the staff member then he/she needs to prepare each clip in advance of the lesson. If the clips are to be made by students then they will require, time, instructions and resources in order to create useful knowledge clips.
Required resources and equipment	The choice of recording equipment depends on the requirements of the production process, the skills of the academic and the resources available to the students. Consider live action video, animation, screencasts, audio only…
Success factors	The quality of the knowledge clip in terms of technical standards, clarity of the explanation, relevance, etc. are all factors in determining the success or otherwise of knowledge clips.
Advantages	Having easy access to well designed and executed knowledge clips can really help students understand challenging topics, processes or subjects.
Disadvantages	Like with any other learning resource made available to students, there is always a danger that knowledge clips will simply not be accessed by students unless there is a good and motivating reason for them to do so.
Additional information	This description and guide to creating a knowledge clip from KU Leuven in Belgium is a very good place to start if you would like to know more about creating your own knowledge clips. This link from Radboud University in the Netherlands explains how and when to use Knowledge Clips. Take a look at these short knowledge clips on YouTube which are all short informational videos of animals, birds, bugs and plants.

Example

In UCLL, Ine Bogaerts has been trying out the Knowledge Clipmethod in the course 'Teaching Methodology Latin' in which 4 students participate.

Here are the steps Ine takes in applying this method:

First select which digital tool you will use. *I selected screencast-o-matic.com.* *This tool is free and it allows you to record what is on your screen.*	
Then make a short script. What are the goals of the video? What is important to emphasise? What do students have to recall after watching the video? The video shouldn't last for more than 3-6 minutes. This is because students find it difficult to focus for longer than that. *I choose to guide myself with a powerpoint and first I practiced and timed everything before I started recording.*	
Then record the video. *I explained which methods students can use in their* classes. *It was not easy to explain everything very clearly because normally you see the responses of the students and you can adjust your explanation. It felt awkward but it forced me to define the essence. In class it would have taken a lot longer to explain because there are more interruptions..*	
I choose to let students watch the video at home to prepare themselves for class. *Liesbeth Spanjers tested the method as well and she choose to show the knowledge clip in class. The students didn't understand the goal of this video because when you are in class you can explain it live as well.*	
In class I choose to check if students understood the different methods by doing a little quiz.	

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Documentary making

Introduction

In documentary making students are asked to create short documentary-style videos on a given subject or issue related to their course. Very often given as a task to groups of students, this method is usually connected to a course rather than an individual lesson as it can take up quite some time and resources on the part of students. Documentaries are a format familiar to all students and nowadays the means to create such documentaries are within the reach of practically all students who have smartphones with built in video cameras. Not only is this method a very useful way to build certain competences amongst your students along with a fuller knowledge of a particular subject, but it is also a useful way to get students out into the real world and to help them learn what it takes to work in a team.

Aim	To further students' knowledge in a specific discipline as well as their communication and collaborative skills.
Target group	While documentary making is often used in media and communication studies, it can be applied to practically any discipline and at any level. Certain subjects which have a strong visual component do lend themselves better to the art of documentary making.
Intended learning outcomes	
• Increased knowledge about the documentary subject • Enhanced communication skills, digital skills and ability to work in a team. • Better understanding and knowledge when it comes to the rights and obligations of self-created video material and material available from other sources.	

Description

Students are first divided into groups (groups of 3-5 usually work best).

They are then asked to identify a suitable subject and to research and then create a storyboard for their documentary – these storyboards can be used in a first round of peer review and evaluation to refine the ideas and plans of each group.

Students need to then record and edit their documentaries checking all the time for scientific accuracy and relevance in relation to the subject under scrutiny.

Showing the edited versions of the documentaries provides a second peer review and assessment opportunity as well as a useful way to discuss the content of each.

Teaching staff members provides support and any additional skills training as well as feedback as and when requested.

Preparation by teaching staff	This method needs to be well prepared by the teaching staff making sure students are fully familiar with the task, the expected outcomes and the extent to which the end output will be used in assessment. Account needs also to be taken of how and where the end outputs will be published.
Required resources and equipment	All student groups need to have access to suitable recording and editing equipment.
Success factors	The choice of initial idea of subject for each specific documentary can have an influence on the success or otherwise of this method as some subjects lend themselves better to documentary making – so make sure to spend enough time and effort on the initial ideation phase.
Advantages	This method helps to build students subject knowledge as well as a wealth of other skills and competences including communication and team skills.
Disadvantages	One disadvantage to this method is that students who are already skilled in video production may have an advantage over those who are not.
Additional Information	For a description of how this method is being used with final year science students in Ireland, read this case study written by the lead academic in the March 2018 issue of the Media & Learning Newsletter. This guide provides some useful tips when starting documentary making with your students. You can also check out the resources data base of the Media & Learning Association here for recording tips, free images and sound sources etc.

This method helps to build students subject knowledge as well as a wealth of other skills and competences including communication and team skills.

Example

In the University of Humanities and Economics in Lodz (AHE), Dorota Janułajtys has been using the Documentary Making method with her course on Methodology of Teaching in the Pedagogy faculty which is run with approximately 15 students each year.

Documentary is supposed to be a part of the project that students complete as a final task and so counts towards thei final assessment.

Here are the steps Dorota takes with the class in applying this approach:

She asks students to video the most important parts of the project.
In certain cases the method has evolved into something more and the documentary has become an important part of the project. In one typical case, students first recorded all the necessary material for the project (with disabled persons): a walk in the woods. The student team captured this activity in different countries (where they actually live as they are studying online using our online platform) including Poland (Kraków, Wrocław), Greece and Ireland.
This video was then projected on a screen and the person participating watched, listened at the same time and performed the physical activity (e.g. walking). Some videos were personalised with the name of the disabled person addressing him/her: e.g. “For you, Hanna”.
This is an example of the where the academic teaching the course has taken the decision to follow the ideas of the students, giving them a free hand .

34

Clustering

Introduction

Clustering is a non-linear, brainstorming technique that enables students to visualise possible relationships among ideas. Grouping similar items, i.e., clustering, is a fundamental human activity for organising, making sense of, and drawing conclusions from data. Across many scientific fields, clustering serves a useful function by helping explore, interpret, and summarise data.

Clustering (sometimes also known as 'branching' or 'mapping') is a structured technique based on the same associative principles as brainstorming and listing.

Clustering procedures vary considerably, although the fundamental objective is to equip students with tools for arranging words, phrases, concepts, memories, and propositions triggered by a single stimulus (i.e., a piece of information, a topic, a provocative question, a metaphor, a visual image). As with other (invention) techniques, clustering should first be modelled and practiced in class so students can eventually incorporate the tool into their own repertoire of invention and planning strategies (Ferris, Hedgcock, 2005[xi] and Osborne, 1953[xii]). Suitable for small and large groups.

Aim	To seek out links, connections or patterns between various facts and statements, unknown data through visualisations, discussion and analysis and consensus-seeking.
Target group	First year students in practically any discipline.
Intended learning outcomes	
• facilitate sharing of information • determine connections or patterns between various facts and statements; • assemble, group or categorise similar information;	

Description

Groups are given a list of statements from which clusters are to be formed. Students look for oppositions, contradictions, or conflicts among ideas, data and add arrowheads to lines between those opposing ideas, data.

Students can be creative and visually represent the clusters, patterns and connections using doodles, concept mapping etc. and using colours. Darken and thicken lines that make connections that seem important, or circles that seem like they are turning into centres of gravity.

Groups create elaborate pieces like art spirals, posters, and so on. They can be invited to write a phrase or sentence that captures some of their ideas about the topic of the cluster.

Groups present their clusters.

Groups discuss the presented clusters.

Example of Cluster creation procedure:

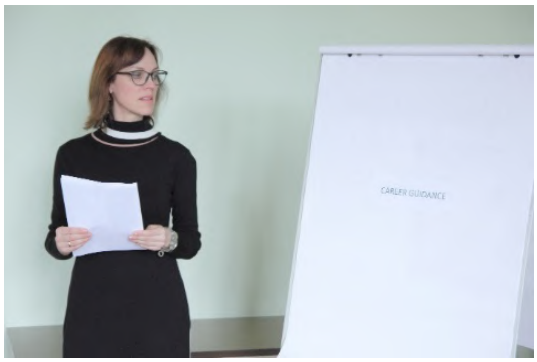
- Tell students that they are going to use a tool that will enable them to write more easily and more powerfully, a tool similar to brainstorming.
- Encircle a word on the board--for example, 'Fibromyalgia'--and ask students to cluster the word for themselves. Before they begin, tell them that the clustering process should take no more than one or two minutes and that the paragraph they will write should take about eight minutes. Ask them to keep clustering until the "Aha!" shift, signalling that their mind is holding something they can shape into a whole.
- After they finish writing, ask students to give a 'title' to what they have written that is suggestive of the whole.

Preparation	The statements need to be prepared by the leading teaching staff member beforehand.
Resources and equipment	Students need to have access to writing materials and flipcharts.
Success factors	For a visual picture of a particular problem, concept or project, and also for showing the progression of ideas in scientific work. Clustering is a generative, open-ended, non-linear, visual structuring of ideas, events, feelings. It is a way of mapping an interior landscape as it begins to emerge.
Advantages	• The result is fast, intuitive and easily interpretable. • Such presentations aid memorisation, recall and exam preparation. • Useful for highly visual or tactile-kinesthetic learners.
Disadvantages	• Can be chaotic, unfocused and intimidating. • Can take too much time if the group is not properly controlled. • Participants might find it difficult to visualise or picture a particular problem, concept or project.
Additional information	On this link you will find *Pros and cons of a non-linear brainstorming technique*. Here you will find examples of brainstorming and examples & strategies for clustering. Basic rules make the brainstorming process meaningful and effective. Here are some creative brainstorming exercises and techniques to help enhance problem-solving skills.

Example

In the University of Latvia, Līga Valinka has been trying out the Clustering method with her course on **Career Guidance** which is run with 12 students.

Here are the steps Līga takes with the class in applying this method:

She first defines/presents a concept, in this case it was **Career guidance** She then divides the students into groups of 3 or 4 Students are then asked to cluster the concept in groups on a flipchart.	
Students work for about 5 minutes on their group cluster. Groups are then invited to present their clusters. Everyone discussed the pros and cons of the different clusters.	

Across many scientific fields, clustering serves a useful function by helping explore, interpret, and summarise data.

35

What? So What? Now What?

Introduction

One of the most straight-forward frameworks to support critical reflection is Rolfes', Freshwaters' and Jaspers' (2001)[xiii] reflective model based upon three simple questions: What? So what? Now what?

The What? part is simply describing the situation. The So what? part is where what happened is analysed and explained, often in relation to supporting literature. It is where most of the references will be, if required. Rolfe et al. consider the final part Now what? as the one that can make the greatest contribution to practice.

Critical reflection is an extension of "critical thinking". It asks us to think about our practice and ideas and then it challenges us to step-back and examine our thinking by asking probing questions. It asks us to not only delve into the past and look at the present but importantly it asks us to speculate about the future and act.

Critical reflection occurs when we analyse and challenge our presuppositions and evaluate the appropriateness of our knowledge, understanding and beliefs, in light of our present contexts (Mezirow, 1990)[xiv].

The reflective model helps students find the main ideas and connect them to realistic actions.

This method is suitable for small and large groups.

Aim	To identify core and fundamental ideas and connect them to realistic actions.
Target group:	Students of all courses and all study fields.
Intended learning outcomes	
• Improved students' problem solving skills. • Enhanced deep thinking about the subject matter in question.	

Description

Students summarise the most important ideas from the lecture or assigned reading.
Then students are asked to determine what is important about the ideas they just listed.
What? What happened? What did you learn? What did you do? What did you expect? What was different? What was your reaction?
So What? Why does it matter? What are the consequences and meanings of your experiences?
How do your experiences link to your academic, professional and/or personal development?

Now What? What are you going to do as a result of your experiences? What will you do differently? How will you apply what you have learned?
Finally, students should brainstorm about possible actions, what can they do about the problem or issue?

Preparation	Not necessary.
Resources and equipment	Not necessary.
Success factors	By reflecting on these three key questions, students are able to think through the significance and future implications of their experiences.
Advantages	This method can be used to enhance students' motivation and increase their active participation in learning. It can help them to process new information and, through discussion and peer to peer interaction, assign meaning to what is being learned. They may also develop meaningful solutions to problems which in turn leads to greater student understanding of the subject matter. It can also help students learn how to transfer their knowledge to real-world problems.
Disadvantages	Unless students are interested and believe they can solve the problem, they may not want to try.
Additional information	The What? So What? And Now What? of Critical Reflection. What? So What? Now What? For Discussions and Activities Here are several lesson closure Activities.

The reflective model helps students find the main ideas and connect them to realistic actions.

Example

In the University of Latvia , Līga Valinka has been using the What? So what? Now what? method with her course on **Purpusful life** which is run with 12 students. In this example she used this method at the end of her lesson on time management.

Here are the steps Līga takes with the class in applying this method:

In the last part of the lecture, the teaching staff member asks students 3 questions: 1. What did you learn? 2. What are your time management skills? 3. What would you like to change?	
Students discuss their answers in pairs.	
The aim is to remember key issues, be conscious of his/her time management habits and make decisions about changes where it is necessary.	

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Tell and sell

Introduction

"Tell and Sell" a product is an important lifelong skill. This method will help get students thinking about how to promote their work with short stories.

Stories engage the brain through a phenomenon called neural coupling, causing brain waves in the listener to mirror those of the storyteller. **Stories help us hook readers emotionally**. Engaged emotions help create empathy with the speaker/ writer.

Stories light up the brain more than factual reporting or data. When people read factual reports, only two regions of the brain activate. FMRI studies show that storytelling activates additional areas of the brain. The brain reacts to stories as if they are actually happening to the reader.

Stories change the brain's chemistry. When a reader is engaged with an emotional story their brain produces oxytocin (the "trust hormone"), a substance proven to increase trustworthiness and generosity. (Richards, 2017)[xv]

Suitable for small and large groups.

Aim	To improve student's writing and negotiation skills.
Target group	Students of all courses and all study fields.
Intended learning outcomes	
• Enhanced negotiation, presentation and writing skills. • Improved ability for students to apply what they are learning. • Enhanced ability to devise and deliver an effective story.	

Description

The activity begins with a brief lesson. Share an example piece of writing and talk about about persuasion, or using words to influence the reader's decision.

Students write an entire story in just 140 characters.

Example I

A good headline tells you what the story is about, grabs your attention and leaves you wanting to know more.

The headline needs to be accurate and written in clear language. Read some story summaries and then write a headline for each one. Now, get into small groups and share your headlines.

Which ones do you like? Why?

Example II

Sell a product

STEP 1: Gather Information

Yes, it's the information age which means the more info with which you are armed, the better off you'll be.

STEP 2: Prepare a Professional Presentation

After you've gathered all the relevant information, you'll need to present it to the other course participants (potenital clients/investors). Along with your most effective tool, a three-dimensional prototype model, you should develop a simple sell sheet to convey all the information you've gathered.

Your sell sheet should be a one- or two-page document that clearly states the following:

- The problem, challenge or need the product meets
- The product's features and benefits
- Your product's market

You should also develop an introductory letter to accompany your sell sheet, which introduces yourself, explains the innovative aspects of your product, etc.

STEP 3: Make the Sale

You're now armed with information, presentation materials and a hot prospect list. How do you know you're getting a good deal? Present/sell developed product to other participants.

Preparation	Not necessary.
Resources and equipment	Paper.
Success factors	This method might be appropriate if participants have been resistant to change when other approaches have been used or have little interest in participation. The more effective we are in evaluating each other, the more each one of us will profit from the experience, whether we are delivering a speech, evaluating, or sitting in the audience.
Advantages	This method promotes an active involvement in learning on the part of students and helps them to develop meaningful solutions to problems which in turn leads to greater student understanding of the subject matter.
Disadvantages	Some students can face the evaluation of their product/story with nervousness and fear.

Additional information	In this article by Monosoff[cxvi] you will find a description of the smart steps needed to sell an idea. These worksheets from the BBC support the activity of writing headlines and provides a scenario.

Example

In the University of Humanities and Economics (AHE) Kamila Witerska has been trying out the Tell and sell method with her course on Primary education.

Here are the steps Kamila takes with the class in applying this method:

Kamila begins by discussing the emotional intelligence theory, and writes on the blackboard the components of the EQ theory.

Students are divided into groups of 5 and prepare one of the emotional intelligence components as an advert to parents to encourage them to take part in an EQ course for parents.

Groups present their work results to the whole class.

The brain reacts to stories as if they are actually happening to the reader.

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Genealogy of an idea

Introduction

Explore the family tree of an idea and trace the lineage of an idea. Be an ideas genealogist – learn who are originators, the idea pioneers and those who are the tribute acts.

A quick exploration of science books would reveal that there are many laws, definitions, and principles. The students might understand or learn them by heart. Many concepts in science are abstract in nature and one wonders how they originated. Tracing the history of how concepts developed and how they were formulated, reformulated, and over years how new paradigms evolved can make the abstract idea more interesting. It also describes how scientists worked, their failures and multiple attempts thus humanising science and giving a sense that is a hu(wo)man pursuit. It presents science as a hu(wo)man endeavour instead of idealising it as something 'out there'. (Indumathy, 2016)[xvii]

Suitable for small and large groups.

Aim	To produce categories of ideas in history of science/art etc.
Target group	Students of all courses and all study fields.
Intended learning outcomes	
• Ability to use tree structures to represent the diversity of ideas • interlinking successive generations of diverse disciplines • improved research skills	

Description

Explore the family tree of an idea and trace the lineage of an idea that stirs you. Follow the inventors trail and get insights into their working methods and inspirations. Identify the people, institutions, organisations etc. that spread key ideas globally.

Draw up a family tree interlinking successive generations of one of the following disciplines: advertising, magic, photography, poetry, taxidermy, engineering or design.

Use the internet and/or traditional library resources to develop a short presentation on the invention/idea you chose. You might also want to develop a model from various materials (sticks, paper rolls, other household materials, etc.) to demonstrate what the invention looked like and how it worked. If such materials are not available, create a diagram with paper and pencil or use a computer to create a graphic, animation, or PowerPoint presentation.

Preparation	Not necessary.
Resources and equipment	Not necessary.
Success factors	Enough resources (computers, books, internet connection etc.) available
Advantages	Helps students in developing meaningful solutions to problems which leads to greater student understanding of the subject matter. Emphasis on the meaningfulness of the knowledge being shared.
Disadvantages	Requires students to do some prior reading or research.
Additional information	This lesson plan from Discovery Education *entitled Tracing the roots of Modern History* is a good example of an effective lesson plan.

Many concepts in science are abstract in nature and one wonders how they originated.

Example

In the University of Humanities and Economics (AHE), Monika Just has been trying out the Genealogy of idea method with her course on Activating Methods in teaching.

Here are the steps Monika takes with the class in applying this method:

First she presents the idea the genealogy of which she is asking students to trace during a group session in the classroom (in this case she is tracing the idea of Education).	
Each participant receives two (or more) self-adhesive sheets (post-its)	
On each sheet he/she writes down only one idea, concept and/or name connected with the idea of education.	
Next, the students stick their notes on the wall.	
After all the students have stuck their notes on the wall, there is a discussion on the structure of the notes and the way they relate to one another. Students establish the correct (in their opinion) structure of the idea so creating its genealogy (they can change the place of the cards).	
Then thy discuss the final structure, give feedback on what they have created and the process of building the genealogy of this specific idea.	

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3-2-1 Processor

Introduction

To summarise some key ideas, rethink them in order to focus on those that one is most intrigued by, and then pose a question that can reveal where understanding is still uncertain.

An important element of reading comprehension is the ability to summarise text. Summarising requires readers to focus on the major elements of a text and to decide what is important. When reading longer texts, this strategy helps readers by allowing them to review what they read in one part before moving on to the next.

The idea is to summarise some key ideas, rethink them in order to focus on those by which one is most intrigued, and then pose a question that can reveal where understanding is still uncertain.

Suitable for small and large groups.

Aim	To prompt students to structure their responses to a text, film, or lesson.
Target group	Students of all courses and all study fields.
Intended learning outcomes	
• ability to summarise • structure the responses to a text, film, or lesson.	

Description

The 3-2-1 is a quick reflective activity that encourages students to reflect on a course experience and organise their thoughts and identify areas of confusion or concern. This activity provides an easy way to check for understanding and gauge student interest. It is also an effective way to promote discussion or review.

This activity would traditionally be introduced toward the end of a lesson or after a lecture. It could also be used in response to an assigned reading.

In reaction to presented content, students are asked to take a few moments and jot down:

- 3 ideas or new insights they have learned from what was presented
- 2 examples of uses for how the ideas could be implemented
- 1 unresolved area/point of confusion

or

- 3 recalls – list three things you recall from the homework, lecture, or activity.

- 2 insights – brainstorm two insights (ideas, connections, main points) not directly covered.
- 1 question – write one question you have about the material (or a sample quiz question).

Students are then asked to share their ideas in pairs or small groups. Use the responses to help guide teaching decisions. Consider areas of curriculum that need to be reviewed again or specific concepts or activities that are most interesting for students.

Collect and discuss or have pairs/squares answer the questions.

Preparation	Not necessary.
Resources and equipment	Not necessary.
Success factors	The 3-2-1 can be a helpful tool for getting students to organise their thoughts, and promote reflection and metacognition. 3-2-1 could easily be adapted into an online discussion board activity or quiz on an online learning platform like Moodle or Canvas.
Advantages	Engages students actively in learning. Encourages students to verbalise their ideas and feelings and this can help them to understand the subject matter. Helps to make students responsible for shaping and directing their own learning.
Disadvantages	Easy for less able or less confident students to be dominated by the confident or capable students.
Additional information	Here you will find an explanation of what is involved in the 3-2-1 Engagement Strategy 3-2-1 STRATEGY

Example

In the University of Humanities and Economics (AHE), Kamila Lasocińska has been trying out the 3-2-1 Processor method with her course on Creativity training.

Here are the steps Kamila takes with the class in applying this method:

- At the end of a lesson, Kamila gives the students the sheets with three points:.
  - 3 things you have learned
  - 2 things that were interesting
  - 1 question that is connected with the topic of the lesson
- Students are then asked to share their ideas.
- Students discuss the ideas raised

Kamila developed this sheet to be used with the 3-2-1 processor method which she circulates to her students:

3-2-1 Exercise

Write 3 things you have learned

Write 2 things that were interesting

Write 1 question connected with the lesson

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Translate it!

Introduction

Activity to promote thinking out of the box. Converting things from one form into another can guide thoughts in totally new and exciting directions. One idea leads to another.

Purposefully engaging the imagination by translating thoughts, ideas and problems into different forms or languages can lead to new discoveries, understanding and ways of communicating. (Ingledew, 2016)[xviii] This method is suitable for small and large groups.

Aim	To promote creative thinking.
Target group	Students of all courses and all study fields.
Intended learning outcomes	
• improved problem solving skills • enhanced creative thinking	

Description

Students translate the following:

- words into drawings – triangle, hot, cold, ice, slower, faster.
- words into typography – lazy, happy, loud, soft.
- musical forms into images – jazz, rap, reggae, punk, classical music.

Communicate with friend the following cities through mime – New York, Paris, Sydney, Cairo, London.

Translate a series of words and phrases into rebuses.

Preparation	Not necessary.
Resources and equipment	Not necessary.
Success factors	
Advantages	Encourages student participation. Problem solving provides a challenge for students, and they can gain a great deal of satisfaction from discovering new knowledge for themselves.

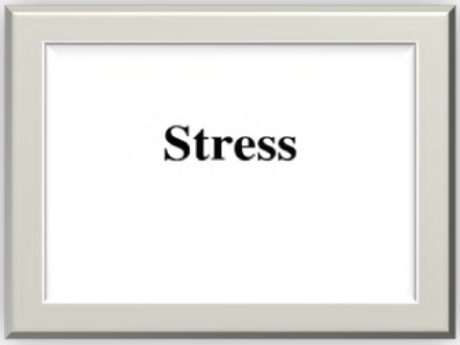
Disadvantages	It is easy for talkative students to dominate. Unless students understand why they are attempting to solve a particular problem, they may not try.
Additional information	On this Big Think Edge site you will find examples of innovation activities for teams.

Example

In the University of Latvia, Dace Siliņa has been trying out the Translate it! method with her course on **Stress management** which is run with 15 students.

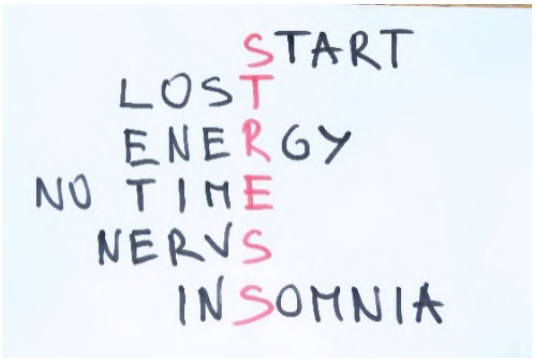
Here are the steps Dace takes with the class in applying this method:

At the start she gives the students the concept about which they should express themselves, in this case the topic was stress….



Students were invited to express their understanding about the concept in different ways, in this case drawing the concept …

or by creating a rebus of the word ….



or by showing the concept in mime……

Converting things from one form into another can guide thoughts in totally new and exciting directions.

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Leader as Coach

Introduction

Being a leader is one of the most important roles in which people need to be coached. By practicing being a leader, students can be helped to make better decisions, to solve problems that are holding them back, learn new skills, and otherwise progress their careers (Gjetson, n.d.)[xix]. This method teaches students a simple coaching technique when another person is stuck and unable to take action. This method is suitable for small and large groups.

Aim	to improve leadership skills
Target group	Students of all courses and all study fields.
Intended learning outcomes	
• Being able to motivate and direct others; • Emphasises the thinking behind various practices; • Enhanced negotiation skills.	

Description

Open the session with a short story entitled My Best Boss. In your telling of the story, you explain that a Senior manager was once asked to describe his "best boss" and the manger responded by saying "That is easy to do. My best boss always gave me work and expected me to do it. Those expectations drove me to action. He gave me challenging assignments and showed that he believed in me. That gave me confidence. But most of all, he was a wise old owl. Whenever I got stuck, and could not figure out what to do, he took the time to coach me. He never gave me answers, he just asked me questions and helped me figure out what to do. I learned from him. If I am going to get work done through people, I have to know how to develop people through work."

The next step is to highlight the importance of knowing what questions to ask and in what sequence. With that in mind, I then divide the class into small groups of three or four and ask them to walk around the room to three separate stations. At each station they are to generate three or four questions under the following headings:

- Questions to **Clarify** the subordinate's problem or situation
- Questions to **Remove Perceived Barriers** that the employee has identified
- Questions to **Create Forward Movement** so the employee can take action

The next step is to reconvene the full group and prompt a discussion on the list of questions: which questions do you like? Find useful? Which questions are not clear to you? After the discussion you should hand out a sheet of paper with the three categories (Clarify, Remove Perceived Barriers, and Create Forward Movement) and ask each participant to record those questions they find most helpful and expect to use in their coaching practice.

Preparation	Prepare 3 “station cards”: • Clarify • Remove Perceived Barriers • Create Forward Movement
Resources and equipment	“Station cards”
Success factors	Through efficient and well-directed coaching it can be possible to work out solutions for a wide range of issues concerning leadership.
Advantages	Actively involves students in learning. Students can feel that they are making a real contribution to their own learning. Allows students to experience roles as leaders, peers and subordinates and to experience a range of social contacts.
Disadvantages	Time consuming.
Additional information	This site hosted by writer and consultant Tom Siebold provides activities, exercises, inventories, and resources that can be used in leadership development

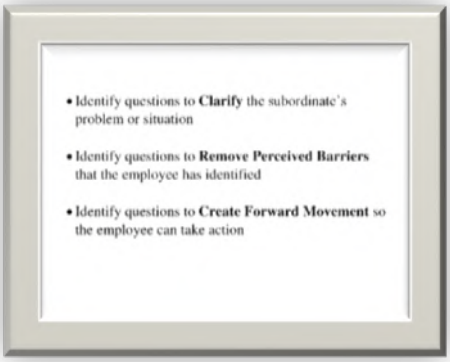
Example

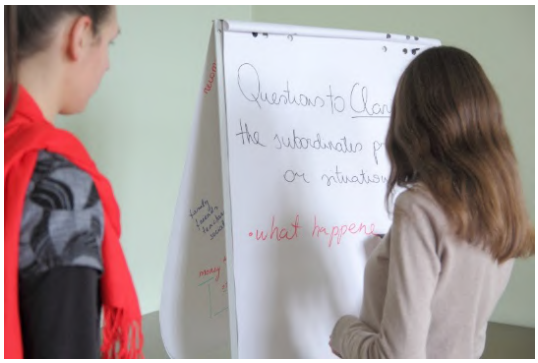
In the University of Latvia, Dace Siliņa has been trying out the Leader as a coach method with her course on **Coaching in everyday life** which is run with 10 students.

Here are the steps Dace takes with the class in applying this method:

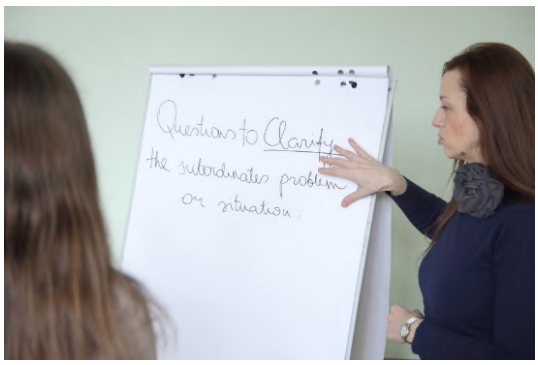
Dace opens the lesson with a short story entitled My Best Boss.	

She then divides the class into small groups of three or four and ask them to walk around the room to three separate stations. At each station they have to generate three of four questions under these headings.





The next step is to reconvene the full group and prompt a discussion related to the list of questions: which questions do you like?
Find useful?
Which questions are not clear to you?



After the discussion she hands out a sheet of paper with the three categories (Clarify, Remove Perceived Barriers, Create Forward Movement) and ask each participant to record those questions they find most helpful and expect to use in their coaching practice.

Conclusions and recommendations

Our objective in gathering and sharing this collection of innovative teaching methods and approaches is to help students in higher education become more motivated and engaged. This is in line with the directions proposed in the EUA Trends 2018 report on student-centered learning. "Teachers become 'facilitators' of learning who share the responsibility for learning with their students, with a focus on their autonomy and pro-active attitude in constructing their own meaning and independently learn, discover and reflect." (Trends 2015, p. 70; Trends 2010, pp31-32)

In this final chapter of our manual we summarise the most important results of the EFE-project resulting from the EFE-related courses delivered and the experiences of students and teaching staff: the higher education teacher training course, the experiences of students and teachers. The final part of this chapter presents our main conclusions and recommendations as well as suggestions for where further research should, in our opinion, be carried out.

Higher Education Teacher Training Course

Programmes carried out by EFE partners were generally positively appreciated by the participants. Even though the main focus was on the development of understanding and implementing the EFE-methods and approaches, an interesting side effect was the sharing of practices, tips and tricks between teacher colleagues of different disciplines. They appreciated both the input on the actual methods and approaches and the peer learning throughout the programme. They expressed the wish to have more time in their job for sharing and discussing teaching practices. They felt motivated to attend the sessions, which can be explained by the Self-determination Theory of motivation (Deci & Ryan, 1985,2000): reinforcing teacher competences (new methods), connectedness (peer learning and sharing) and autonomy (choice of methods and approaches).

Students experiences

95% of student responses indicated that they were motivated during the activities based on EFE-methods and approaches. A point of concern is the clarity of the tasks. For one in ten students, it was not always clear what they were expected to do. Often this became more clear during the activities. One reason could be that students experience these methods and approaches for the first time and are confronted with quite different and often unexpected expectations, with which they are not familiar.

Students indicated that not all fellow students seemed as engaged or motivated as one could expect. Nevertheless, this should not mean that more passive students are less engaged or motivated, given the overwhelmingly positive reaction in general. Some students choose to listen, to observe as a way of being engaged.

"We were interested to learn"

Teaching staff experiences

All the higher education teachers in Belgium, Latvia and Poland who were involved would like to use the EFE methods and approaches again. They consider the methods and approaches as being useful and enriching. Teachers reported that almost all students are motivated and engaged during classes that integrate these methods and approaches. This does not mean all students are as active: a small group of students weren't very active during the classes.

Higher education teachers invested extra time to implement the new methods in their classes. The return on investment, motivated and engaged students, is highly encouraging for them. Motivated teachers act is a stimulant for the engagement of students.

Each academic can go deeper and modify the way of applying methods, adjusting the structure to educational needs, exploring the method further during classes. Most of the methods open the visual sphere, which allows for more holistic development. A package of problems associated with the given topic can be gathered as one symbol or metaphor, enriching the teaching/learning process. The teacher has the opportunity to engage in a dialogue with students, encourage them to express their views, feelings, and summaries. What's most important, using engaging methods creates a way to find out what students learn during a class, what is important to them.

"They were excited and enthusiastic"

Businesses experiences

Each student hopefully becomes an employee and represents a significant investment in terms of time and money for the company where he or she eventually works. However, if these students are not able to fully perform their work from the start, and furthermore if the company needs to spend time and money enhancing their skills, then they can represent a significant challenge to businesses.

There is often a gap between what companies need and what students can provide. Nowadays many internships are paid and often when students apply for an internship position, the company's requirements are the same as for an adult employee.

Here are the most important conclusions we made based on our discussions with businesses:

- A combination of hard and soft skills is very important.
- Knowledge is important but less important than it used to be as it changes so rapidly.
- The strength of the whole team is really important. The social capital of a company has become much more valuable.
- When companies hire, they don't value knowledge that much but more important are the employee's values and whether they correspond with the company's philosophy;
- Self-regulation is every important.

Recommendations

The EFE partners have gathered a considerable amount of experience based on the work that they have carried out during the lifetime of the project developing, testing and evaluating different methods and approaches aimed at innovating the higher education teaching process. Based on this experience, we put forward the following recommendations aimed at those responsible for teaching practices in higher education universities and colleges.

- **Give enough time:** Introducing new methods and approach requires some time before teaching staff become really familiar with how best they can be implemented therefore we recommend that teaching staff be allowed to first test out such methods with small groups before launching them in large scale course activities.

- **Build in peer support:** Introducing new methods where there is a digital aspect can be particularly challenging for some teaching staff. What helps are the experiences of colleagues who have already tried out the method and who aren't experienced with digital tools either. What is helpful too is a knowledge clip where someone explains how to use the digital tool and a familiar point of contact.

- **Select method or approach carefully:** Working with new methods and approaches can be more time consuming than traditional methods like teaching and educational conversations. Teachers will need more time to handle the same content but in return we can assume that the learning impact for students is higher. This is an assumption that is worth considering for further research. When there are time constraints, we recommend that the teaching staff member makes a careful selection based on the most important learning goals for students.

These are difficult decisions to make and it is important to discuss them with other colleagues because of their importance to the institution as a whole.

- **Prioritise communication:** Teaching staff benefit from discussing the implementation of innovative methods with their peers and so ample opportunities need to be made available to facilitate both face-to-face and online communication amongst teaching staff about their experiences.

- **Try-out the methods and approaches for yourself:** Teaching staff benefit from experiencing the methods in a training programme. They can experience the methods themselves and experience the benefits of being active in class. In our opinion, this is a time-consuming but effective way to motivate teaching staff. In addition, it is also important after their experiences that teaching staff reflect where they could use the methods they have experienced. In that case they visualise the opportunities for where they could use the different methods and approaches in their classes. Participants said this way of working was very 'hands on'.

- **Match assessment and evaluation:** Innovative methods such as those tested and shared within EFE are often aimed at developing so-called 21st Century skills and competences amongst students. Assessment approaches taken in higher education settings need to reflect this and to measure such skills and competences rather than simply the knowledge that students have gained. Further research on applying innovative methods and approaches to assessing 21st century skills and competences in higher education are recommended in order to ensure such methods and approaches become commonplace.

- **Recognise additional effort**: Innovative teaching methods often require quite some effort on the part of teaching staff and students that can go beyond more traditional approaches. This needs to be recognised in the institution as a whole both through making such effort visible across the whole institution and ensuring the necessary resources and support are made available.

- **Explain benefits to students**: Innovative teaching methods require more effort on the part of students. They are often used to sitting and just listening. Using new methods and approaches activates students more and there are higher expectations. Therefore it is important that teaching staff explains why it is important to work in different ways, and why it can be of benefit to the students themselves. We assume that students will experience the benefits after a while but this is also potentially a subject for further research.

- **Make allowances for increased discussion**: In some institutions the number of students in any one class can be very high. Students need to talk with one another in many of the methods and approaches which we describe. In a big aula such conversations can become very loud and it is not easy to get everyone's attention. It is therefore very useful to be very strict with timing and to agree on a signal for when such conversations have to end. It is also useful to have some small classroom space available nearby for when students have to have discussions so the level of noise is tolerable. This is of course only relevant when students need to discuss for a reasonable amount of time.

- **Share discourse with colleagues**: The use of such innovative methods and approaches points to the changing role of teaching staff in higher education. This is often referred to as the change from being the "sage on the stage'" to the "guide on the side", where students no longer just sit and listen to teaching staff during classes. This means that when adopting innovative methods and approaches, teaching staff really need to review their teaching goals and how best they can be achieved. It is very useful to share and discuss these didactic considerations with colleagues as it can reveal a lot about staff members' views on education as a whole as well as the institution's own vision.

Further research

The EFE project offers exploratory data on the integration of innovative methods and approaches in three European Higher Education institutions. These results support us in identifying questions for further fundamental and applied research:

- What impact on learning do different methods and approaches for innovative, engaging higher education have throughout different disciplines?
- What higher education teacher training activities are effective for teachers to implement innovative methods for motivating and engaging students successfully?
- How can we reinforce the theoretical underpinning of methods and approaches for innovative higher education that engages students?
- Do these different methods and approaches really stimulate 21st century skills?

Glossary

Concept	Definition
Approach	An approach is a way of looking at teaching and learning. An approach gives rise to methods, the way of teaching something, which use classroom activities or techniques to help learners learn. Approach is a set of principles, beliefs, or ideas about the nature of learning which is translated into the classroom.
Teaching strategy	Teaching strategy includes all aspects such as content, task analysis, teaching objectives, changes in the behaviour, attitude of students; their interest, capacities, abilities, and needs etc. Teaching strategy is a long term plan of action designed to achieve a particular goal.
Method/Technique	The term teaching method refers to the general principles, pedagogy and management strategies used for classroom instruction. Presentation of content. A teacher has large range of strategies to adopt any teaching method. Micro approach. It is a systematic way of doing something. It implies an orderly logical arrangement of steps. It is more procedural. Teaching Technique is a well-defined procedure used to accomplish a specific activity or task.
Intended Learning Outcomes (ILOs)	Learning outcomes describe what a learner is expected to know, understand and be able to demonstrate after completion of a process of learning. Intended learning outcomes represent achievement attained by students instead of topics to be covered, the latter being typically the purpose of a syllabus. An outcome-based curriculum design begins with defining the student learning outcomes for the programme and the component subjects. ILOs are statements about what a student will achieve upon successful completion of a unit of study.

SOLO	SOLO – the Structure of the Observed Learning Outcome, is a means of classifying learning outcomes in terms of their complexity, enabling us to assess students' work in terms of its quality not of how many bits of this and of that they have got right.
Aim	A brief statement setting out the intention in providing the degree programme or course in terms of the scope of the subject, and the overall learning outcomes sought.
Self-determination theory	Self-Determination Theory, or SDT, is a theory that links personality, human motivation, and optimal functioning. It posits that there are two main types of motivation—intrinsic and extrinsic—and that both are powerful forces in shaping who we are and how we behave.
Autonomy	Autonomy is conceived of as a second-order capacity of persons to reflect critically upon their first-order preferences, desires, wishes and so forth and the capacity to accept or attempt to change these in light of higher-order preferences and values. By exercising such a capacity, persons define their nature, give meaning and coherence to their lives, and take responsibility for the kind of person they are.
Competence	Competencies are combinations of attitudes, skills and knowledge that students develop and apply for successful learning, living and working.
Connected Learning	Connected learning combines personal interests, supportive relationships, and opportunities. It is learning in an age of abundant access to information and social connection that embraces the diverse backgrounds and interests of all young people.
21st Century Skills	The knowledge, skills, and expertise students should master to succeed in work and life in the 21st century. Many international organisations have elaborated this concept, such as UNESCO, OECD and the EU. In 2015 the OECD launched the Future of Education and Skills 2030 project. The project aims to set goals and develop a common language for teaching and learning. Phase I of the project focuses on curriculum redesign and developing a conceptual framework for learning 2030. Phase II focuses on curriculum implementation and creating a conceptual framework for teaching 2030. (OECD, 2019[xx])

Metacognition	A term for thinking about one´s own thought processes (Hattie & Zierer, 2018[xxi]): the activity of making one´s own learning visible and monitoring one´s own learning process. It entails thinking about learning and thinking about one´s own thinking. Meta-cognitive strategies are concerned with self-assessment, using mistakes to reflect on one´s own action, peer tutoring, study skills, reciprocal teaching. (Biggs, 2011)
Reflective learning	Reflection learning is learning by reflecting on (learning) experiences. Reflection is based on theory linking it to the context of experiences. In the professional context it is considering and thinking about problems or difficulties in order to work out how to go forward and to improve professional performance. Students need modelling and support to understand what reflection is and how it is used in order to improve their learning
Rubric	A grading scheme that makes transparent to students and teachers the criteria and accompanying indicators at different levels. This grading scheme is used to assess how well intended learning outcomes are achieved. (Biggs, 2011)
Teacher	Teacher is the person or member of a group of persons who are designing, preparing and delivering teaching-learning activities to students in higher education (in the case of the EFE project)
Constructive alignment	Alignment is a principle in curriculum theory that assessment tasks should be aligned to what it is intended to be learned. Constructive means that intended outcomes indicate the activity that students should be doing if they are to achieve the intended outcome as well as the content to which the activity refers. What the teacher is doing is less important than what the students do in the learning process. (Biggs, 2011, p. 97)

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