Guidelines for
teaching, learning and assessment in VLE

Claudia Martín Carmassi, Leire Nuere-Salgado, Juan Pérez-Miranda, Adrian Kühn, Noelia Valle Benítez, Solja Ryhänen, Anuliina Savolainen, Aija Hietanen, Rasa Tamulienė, Lina Šarlauskienė, Tanja Grmuša, Sanja Rocco, Neven Šipić, Željka Zavišić, Manny Athwal.

2023

Quality of Virtual Studies (QVS) project

The aim of the project "Quality of Virtual Studies" was to increase the quality of teaching/learning in virtual learning environments (VLE) and the study process by creating preconditions for the recognition of results attained through virtual mobility. The project was coordinated by **Kaunas University of Applied Sciences** (Lithuania) and implemented together with four partners:

- ► Savonia University of Applied Sciences (Finland)
- ► School of Coding Limited (UK)
- ► Francisco de Vitoria University (Spain) and
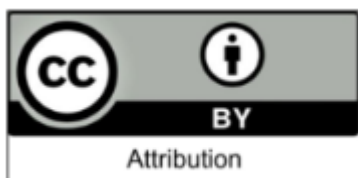- ► Zagreb School of Business (Croatia).

This project attempted to solve the issues raised above by improving the quality of virtual studies, creating a teaching/learning methodology and implementing technological and pedagogical innovations (teachers' didactics, digital competencies, gamification of the study process), which will increase access to education and learners' motivation. The project aimed to educate staff about pedagogical and technological innovations (strengthening digital literacy competencies among academic staff) and to spread these good practices for cohesion in Europe.

Teachers with a deeper understanding of virtual learning and pedagogical and technological innovations will be able to use this information in their subjects, thus ensuring high quality education, student motivation and academic integrity. Higher Education Institutions (HEI) will be able to verify the quality of virtual mobility and ensure that educational outcomes are recognised by developing their internationalisation at home (virtual student and teacher mobility, inter-institutional studies, mobility windows).

The project aim is pursued through three objectives: 1) creating the methodology for teaching/learning in VLE; 2) improving competencies of academic staff; 3) pilot testing of the teaching/learning methodology developed. Three intellectual outputs will be developed through the project activities:
1) a VLE teaching/learning and assessment method analysis report;
2) VLE teaching/learning methodology;
3) VLE methodology application practice report.

Project Code: 2020-1-LT01-KA226-HE-094740

Table of contents

How to use this guide?

In a rush?
Study the info sheets
that summarise each
chapter.

How to?
Watch video tutorials:
www.youtube.com
#QVS

More info?
Dig into the additional
resources included in
this guide next to this
icon.

Design a VLE course

Learn how to design effective courses
for virtual learning environments (VLE)

LEARNING DESIGN

Learning Design is a **systematic**, **student-centred** and often collaborative process where the teachers design how learners learn, instead of focusing on the teaching. The learning design often includes a description of the learning activities, content, structure, timing, learning methods, and assessment plan, as well as the technology used. Prototypes of learning activities are created and tested to achieve the set learning outcomes.

Traditional teaching focuses on the teaching acts and the teaching content. Learning design focuses on the **learner and learning outcomes**. Learning design considers selected learning outcomes, target groups and context. Learning design has its roots in Design Thinking.

In learning design, the key is to shift the focus from teaching to learning.

Universal learning design

Not everyone is the same. Among the learners' group there are students with different abilities, strengths, backgrounds, and preferences. The idea of universal learning design is to broaden access to education for all learners by **accommodating their needs**. In order to design a course, the teacher needs to know the learner profiles for example their age, skills, goals and learning style.

To make learning accessible for all according to universal design for learning (UDL) principles, the teacher should provide multiple means of:
- ► **engagement** – Develop ways to learn that motivate and sustain learners' interest.
- ► **representation** – Present content in multiple ways (e.g. subtitles in videos, audio format in addition to text).
- ► **action and expression** – Offer learners variety of options to demonstrate their skills and knowledge.

Resources

- ► The UDL Guidelines (CAST, 2018)
- ► Learning Design (University of Bath, 2023)

Considerations in designing learning for virtual learning environments (VLE)

The technology should support the learning instead of being the focus of learning. The teachers needs to align technology with pedagogy and identify what students will use the technology for. There are also some challenges to overcome prior to utilizing learning design in online learning:

- ► Technology can be distracting instead of enhancing learning. Use of multiple types of media should support each other instead of confusing the student.
- ► The question of equity should also be considered: students with fewer opportunities might not have the same access and abilities to use technology The effective use of technology can make content and materials more accessible, by for example providing multiple ways to consume the materials (videos / text, audio).
- ► The technology-enhanced teaching is often also very media centric. The overflow of pictures, videos and interactive tools can be overwhelming for some students.
- ► From institutional point of view, it is important to also consider the costs of the technology considering the applications as well as the time the teacher uses while learning them.

CHALLENGES

- ► Self-isolation and loneliness
- ► Time management & lack of self-discipline
- ► Lack of support
- ► Too extensive learning materials
- ► Difficulties in navigation in the learning management system
- ► IT problems
- ► Distracting learning materials
- ► Time consuming for teachers.

SOLUTIONS

- ► Create a learning community.
- ► Set up e.g. weekly tasks instead of one final exam
- ► Provide regular teacher & peer support.
- ► Sum up the teaching content.
- ► Create clear structures.
- ► Use limited number of simple tools.
- ► Adapt teaching to the students' skills.

How to support virtual learning?

In order to make learning possible, students must:
- ► be motivated
  - o motivation is the basis for learning. The teacher cannot create inner motivation, but (s)he can maintain and enhance it by supporting, providing feedback and creating a community of learners. Motivated teacher motivates students
- ► be informed
  - o student needs to be clear on what are the goals, deadlines, required tasks
- ► be able to remember
  - o by connecting the learning content into somethings the learner already knows supports remembering, because remembering is not storing things – it is about creating connections between them
- ► be alert
  - o our attentiveness usually only lasts for 15-20 minutes – therefore it is important to change working method or medium every 15-20 minutes (Hattie & Yates, 2013)
- ► feel safe
- ► deep learning can only happen when a person feels psychologically safe. Create safe learning environment by communication.

How to design learning for VLE?

A typical **learning design process** includes following phases:

1. Set the course (sub)outcomes.
2. Define the learner profile.
3. Design the learning activities.
4. Design the learning contents & materials.
5. Define the support and assessment methods.
6. Test & collect feedback.

1 Set the course (sub)outcomes

In higher education, the degree program curricula define the main course outcomes. The teacher needs then to clarify to him/herself the focus of the course. What problems will students be able to solve after the course? Where do the students need the most help: in knowledge, skills or attitudes? Based on analysis, the teacher needs to split up the main outcomes into sub-outcomes and define what the student will learn after each phase of the course.

2 Define the learner profile

It helps to meet the learners' needs by concluding a **starting level survey** among the students. Survey can include questions on their prior knowledge of the subject, age, education and IT skills level, learning preferences, learning outcomes, ability to work independently, access to online environments etc). Teacher can even identify the students with special characteristics needing more support than average students.

Satu Aksovaara (2022) suggests that based on the survey the teacher can create imaginary **learner profiles** of the students, such on the right
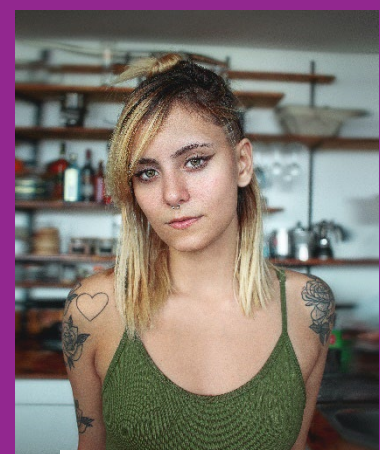

"Elaine", 23
- ► Uses digital tools daily.
- ► Works part-time.
- ► Limited time for synchronous lessons
- ► Likes group work.
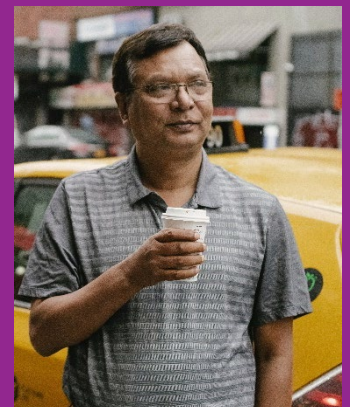
"Bob", 37
- ► Uses IT rarely.
- ► Wants to study at 9-5.
- ► Has 3 children
- ► Very motivated
- ► Has working experience.

"Linda", 19
- ► 1st year student.
- ► Looking for her passion.
- ► Likes to study independently.
- ► Active in social media.

Example of a starting level survey for participants

3 Design the learning activities

After the learner profiles have been created and sub-outcomes have been set, the teacher can define the **activities** that result in learning. Activity is something where the learner is active e.g.
► problem solving
► decision making
► classifying
► practising
► searching of information

In addition to learning activities, the teacher must plan e.g., use of **tools** as well as **where** does the learning takes place and whether the teaching is **synchronous** or **asynchronous**. In the virtual world, learning can take place even before the course starts in case the online course includes pre-readings or tasks.

In case students process the information themselves, they will be able to link them with things they have learnt before.

Learning can be facilitated further by increasing the interaction between the students to create a shared understanding on the teaching topic. Students may have different information on the topic, but viewing this information through other students' eyes may reveal the gaps or inconsistencies in their thought processes. LMS provide different ways to support interaction e.g. with wiki or discussion area tools.

To design a course successfully for virtual environments, the teacher should:
► **structure** the course into e.g. into weekly modules with a set theme
► **activate** the learners, because interaction is often less frequent in virtual classes
► **create a channel for interaction** to add meaningfulness and support

4 Design the learning contents and materials

Defining the contents

One of the key skills of a teacher is the **curation of information**. A list of literature or a 100-page pdf does not result in learning, but the teacher needs to select the key pieces of information or skills that the students need to learn. It is crucial to define what needs to be learnt, to what extent and by whom.

Designing the learning materials

A learning material can be an exercise, video lecture, simulation task, a book, manual, learning game etc. As learning is an act, the student needs to be **activated** with learning materials. They need to be e.g. able to compare, evaluate or use the information. The materials should be planned according to the target group and they need to be challenging and authentic enough to keep up the motivation. Research shows that the learning material may arouse the student's situational interest in case it is concrete, humoristic or includes new surprising elements.

For independent e-learning the course must be **well-structured** and there must be different ways to provide e.g. automated feedback to **support** learners and help them to complete the course in their own space. A 15-page article or a PowerPoint presentation is not e-learning content, just by making it available online. It lacks lack the curation, explanations and guidance of the teacher. University of Washington suggests e.g. to apply following types of principles of **universal design for learning** in learning materials (University of Washington, 2022)

- ► use **clear navigation**.
- ► use **short paragraphs**
- ► avoid **flashing** content.
- ► use **descriptive** wording for **hyperlink** text (rather than "click here").
- ► use a text-based format and structure headings, lists, and tables using style and formatting features within your Learning Management System (LMS) and e.g. in Office tools (Power Point)
- ► **avoid pdf** documents or make them accessible.
- ► provide **captions** within images
- ► use **large**, bold, sans serif **fonts** with plain backgrounds.
- ► use colour combinations that are high contrast and can be distinguished by those who are colourblind. Do not use colour alone to convey meaning.
- ► include **captions** in videos and **transcribe** audio content.
- ► avoid using too many technologies.
- ► prefer tools that can be used with **a mouse** and a **keyboard**.

Resources

- ► UDL in practice (Vanderbilt University, 2022)

- ► How to Make an Accessible pdf? (Adobe 2019)

- ► Color Contrast Analyser (TGPi, 2023)

5 Define support and assessment methods

In case the learner is responsible for learning, what is the teacher responsible for? Teachers have a huge role in **supporting** and **motivating** their students.

Feedback is a great way to maintain student motivation. It is important not to leave the evaluation in the end of the course but try to aim to assess the student's work throughout the course. In virtual studies feedback and support can be automated e.g., by using hints linked with questions, integrated check-up lists, templates or progress bars included in the learning management system.

Different types of students require different type of **student support** during the course. One might need help in **time management**, while the other needs assistance with some **technical** tool. Not all students are self-directed enough to be able to complete a course that is 100% virtual requiring a lot of individual tasks. Not all have the adequate skills to focus his/her attention on the right things. The teacher must include frequent **check-up points** during the course where (s)he can guide the student into right direction and support self-direction. The learning material can also include tools that support independent work and visualise the learning process (e.g. mind maps, discussion forums, blog platforms).

6 Test and collect feedback

One of the key components of design thinking is the element of customer feedback. In order for the teacher to develop his/her course, it is important to collect systematic feedback on the course e.g. through participant surveys during or/ after the course. Implement changes and start a new testing round.
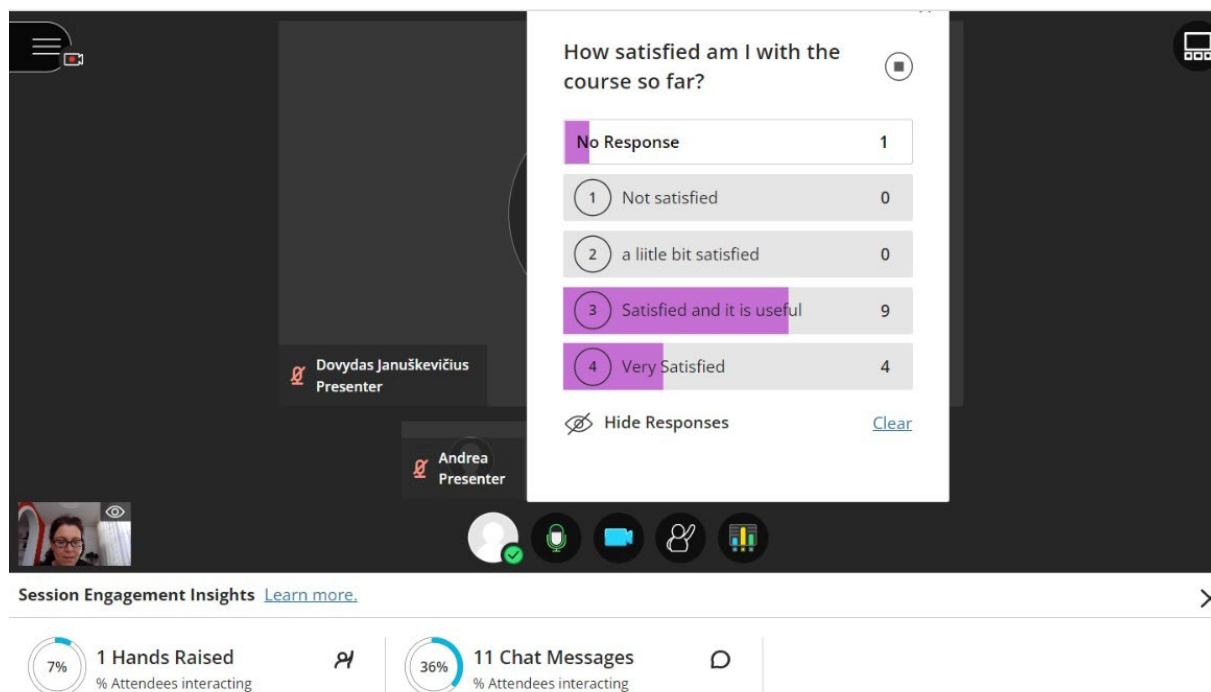
Example of a poll carried out in the middle of the course

CHOOSE A LEARNING METHOD

Learning theories

Learning theories try to answer the question on how people learn, how they recall information and remain motivated to learn. The most well-known learning theories are behaviourism, cognitivism and constructivism. A newer, but well recognised learning method, is connectivism:

► **Behaviourism learning** theory explains that human behaviour is controlled and influenced by external factors. It relies heavily on how a person behaves and communicates with their environment.
► **Cognitive learning theory** focuses on internal factors such as a person's memory and mental processes. Cognitive learning relies on the fact that the student is motivated based on the fact that (s)he does not know the topic in question and is thus interested in learning about it.
► **Constructivism learning theory** is based on learners' previous experiences. According to the theory, learners will create their own understanding by linking what is being taught and what they already know. This learning theory considers learning as an active process.
► **Connectivism** represents one of the newest educational learning theories. It suggests that learning happens via connections. For example the person can form connections in his workplace or classroom to solve a problem at hand. Digital learning spaces create ideal opportunities for connective learning by enabling new ways to connect with people and sources of information.

How to select a learning method

Bloom's taxonomy is a hierarchical model that helps to detect the level of cognitive processes. The learner must first reach the lower levels before achieving the skills on the higher levels. This model helps teachers to categorise the type of cognitive skills required to learn the content in question and thus select the suitable learning methods.
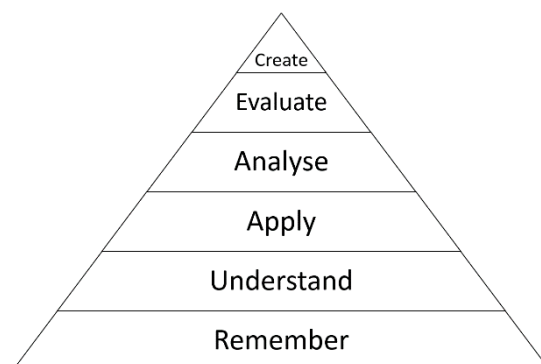
A revised Bloom's taxonomy (Anderson-Krathwahl, 2001)

Revised Bloom´s taxonomy	Learning objectives	Examples of VLE actions
REMEMBER **(Knowledge)** Demonstrating an ability to recognise or remember data, facts, terms, basic concepts, or answers without necessarily knowing what they mean.	**Student can:** Define, recite, name, choose, recall, list, indicate, label, match.	Memory-games, Watching videos, Testing tools, Bullet point lists, Web search, Puzzles, Quizzes
UNDERSTAND **(Comprehension)** Drawing meaning from messages (written, oral, and graphic) by categorising, summarising, inferring, comparing, and explaining relationships in the information.	**Student can:** Explain, summarise, paraphrase, restate, interpret, compare, contrast.	Mind mapping, Social media posting, Community discussion threads, Graphs, Discussion, Reading material, Presentations, Interactive videos
APPLY Using acquired knowledge to solve problems in new situations by using rules, tools, and techniques.	**Student can:** Apply, develop, incorporate, solve, use, plan, demonstrate, organise, produce.	Gamification Online simulation Problem solving Fill-in-the-blank exercises, Practice assignments Quizzes
ANALYSE Examining and breaking down information into component parts, demonstrating an ability to analyse elements, relationships, and organization of the component parts.	**Student can:** Analyse, criticise, examine, illustrate, relate, categorise.	Discussion forums, Expert areas, Sorting Compare/contrast, Pro/con lists, State evidence for a theory
EVALUATE Assessing and assigning value based on criteria and being able to justify a stand or decision.	**Student can:** Compose, design, write, revise.	Debate, Design a testable solution, Presentations, Measure and test, Comment and moderate, Discussions, Peer review
CREATE Utilise the understanding of the concept to create a new or original work derived from subject understanding.	**Student can:** Assess, judge, justify, measure, defend, convince, support	Film, Animate, Blog, Vlog, Wiki, Podcast, Publish, Broadcast

CREATE A COURSE PLAN

A course plan, also called as a pedagogical manuscript, is a tool for a teacher to make the structure of the course visible for him/her. It supports designing the learning activities, materials, tools, and assessment.

Course planning can be time consuming, but it is still worth it. It is also important to collect feedback according to the learning design principles to develop your course even further.

To create a course plan, one can use traditional pen and paper, post-it notes or different online tools. You can also utilise e.g., a spreadsheet templates for your course design.

Cource name:	An example course for designing a pedagogical scripting	
Teacher(s):	Oona Rantamäki and Anulina Savolainen	
Course timetable and extent:	1.11.-16.12.2022, 1 ECTS (27 hours)	
Learning objectives:	1) Understands the purpose and advantages of pedagogical scripting in the planning of a course 2) Knows how to implement course plan 3) Can measure the use on time of learning events in relation to the extent of the course	
Group size and method:	30 students, multiform	
Groups starting level:	Student teachers. Students know the basics of pedagogy and didactics and know how to apply them in practice. Variability in the ability to use digital tools.	
Pedagogical teaching methods:	Flipped learning	

Time of the learning event	Learning objective	Learning content	Method	Learning environment and tools	Operator	Learning material	Work load in parts	Work load	ECTS	Assessment and feedback	Estimate: teacher work load
1.-7.11.2022	Course orientation	Learning objectives, progress, assignment and assessment/evaluation	Independent studying	Moodle section 1 "Study in a course", text material	Student independently	Implementation plan Course description and progress diagram	Independent studying 1h	1	0,04	no	
	Orientation, grouping	Intriduction and expectations	Web discussion	Moodle, section 1 discussion area 1	Students	Moodle, "Study in a course", text material	Own presentation 30 min Following orher presentatons and commenting 60 min	1,5	0,06	teacher comment the discussions	discussions and summary feedback 30*2 min + 30 min = 1,5 h
1.-28.11.2022	3	Monitorin the use of time spent studying (studying other courses)	Learning diary	Moodle section 2, wiki	Student independently	no	getting to know the assignment + recording the time spent studying, total 2 h	2	0,07	Pass/fail: teacher checks as it has been done	30*5 min = 2,5 h
1.-7.11.2022, assignments by 7.11.	1	Pedagogical scripting part of the study plan	Independent studying	Moodle, section 2	Student independently	Videolecture 1 (20 min) text material 1 (5 pages) H5P-activity 1 and 2	Video 40 min (deep understanding) text 30 min H5Ps 30 min	1,75	0,06	Automatic feedback H5P (automatic pass-fail)	

Example of a course plan (pedagogical manuscript)

TOP TIP
You can find the above course planning template at the end of the guidelines (Annex 1)

How to create a course plan for VLE

Consider the following elements when creating a course plan for a virtual learning environment. These elements are suggested in the eAmk quality criteria for online implementations (Varonen & Tyrväinen, 2016).

1. **Learning outcomes and pedagogical solutions**

   ► The course curriculum defines the learning outcomes of the course.
   ► The learning outcomes should define the used learning materials, pedagogical solutions as well as technical tools.
   ► Learning goal must be proportionate for the student's starting level.
   ► Course provides various methods and ways for the students to study and improve their skills.

2. **Starting level**

   ► The course orientation should define the starting level requirements. Many LMS's (Learning Management Software) provide tools for establishing the starting level.

3. **Group size**

   ► The group size sets certain boundaries for planning the course.
   ► The number of participants is proportioned to suit the implementation
   ► The pedagogical solutions are suited with the number of students.

4. **Extent of the course**

   ► Course orientation should include information on how much work is demanded.

5. Learning method

► Chosen learning method(s) should motivate students and help them to reach the learning objectives.
► Bloom's taxonomy helps teachers to match the learning methods to learning objectives.

6. Learning activities & assignments

► Start each course with **orientation** that includes
  o introduction (text/ video) that motivates students,
  o course timetable and
  o course activities or/and assignments.
► Make sure that the **assignments** are understandable. Assignments should always be linked with the learning objectives and preferably also working life situations.
► Include the **evaluation criteria** and the schedule of the assignments in the VLE.
► Follow the **Universal Design for Learning** (UDL) principles:
  o The assignments are designed so that the students have an opportunity to use technological solutions that suit their abilities. Students can use e.g., audio, video, images, or text format to submit their assignments.
  o The course learning material is **accessible**. Videos have subtitles, visually impaired students can use screen readers for studying. Correct contrasts and colours in for example on PowerPoint presentations help visually impaired or red-greed blind students to study the learning materials.
► Consider the course format whether it is **fully online**, **hybrid or non-stop**
  o The assignments need to be fit for online learning so that they can be completed online individually or in groups.
  o The course implementation is justified considering the course format.
► Consider whether the course is **synchronous/ asynchronous.**

An example of an unclear course structure (left) vs. a clear course structure (right) in Moodle

7. Learning material
► Make sure the learning material is **up to date.**
► Learning material is created to support the students to reach the learning goal. Separate 'must to know' from 'nice to know' materials.
► Use online materials to which the institution has an access right.

8. Learning tools

► Students are provided with the **instructions** for using the online platform.
► Learning **tools** are chosen for the course to serve the pedagogical approach.
► The online learning platform provides **learning analytics** for the teacher and students of their own studying process.
► The course does not require more than a **conventional online connection speed**.

9. Individual or group work

► Students are given clear instructions on what kind of assessments to complete and when to return them.

10. Assessment / evaluation

► Guidance practices are well described and available during the course.
► Students are provided with **variety of tools** to participate in guiding discussions.
► The students can give feedback and ask questions during the course.
► The **responsible persons and schedules** are easily found on the learning platform.
► The evaluation criteria are based on the learning objectives of the course. Evaluation methods are detailed in the course orientation.
► Learning assessment takes place throughout the learning process. Students participate in self-assessment and peer-assessment. The tools for assessment are provided on the VLE platform.
► The evaluation must be open and known to the students. Spot tests are not recommended
► If **peer-assessment** are being used, students need to know what to assess and what not.
► Teacher plans how and when feedback is given to students. The more students have independent work, the more they should be given feedback. Moodle's automatic tools are recommended to be utilised.

Quality criteria for online implementations

Adaptation of the criteria presented by Varonen & Tyrväinen, 2016

- **Target group**
  - ► Teacher surveys the learners' starting level.
  - ► Pre-requirements are included in the course description.
  - ► Teacher acknowledges that the group size is proportioned for the implementation

- **Learning objectives**
  - ► Objectives are working life orientated.
  - ► Selected learning methods support the achievement of learning objectives

- **Learning activities**
  - ► Activities are connected to the learning objectives.
  - ► Activities are well suited to the online implementation.
  - ► Activities have been chopped into small tasks.
  - ► Evaluation criteria and schedule are clearly described.
  - ► Support and guidance is provided for learners

- **Contents and materials**
  - ► The materials are up to date, reliable and accessible.
  - ► Learning materials enable combining and applying new and previously learned information

- **Tools**
  - ► There are instructions for using the learning platform.
  - ► Online tools support the achievement of the learning objectives.
  - ► Learners can monitor their progress of their studies with learning analytics

- **Interaction**
  - ► Learners and the teacher have opportunity for mutual interaction, communal working and learning from others.
  - ► Learning environment includes tools for interaction

- **Guidance and feedback**
  - ► Learners have the opportunity to participate on guiding discussions.
  - ► There is a channel/tools for Q&A and feedback to motivate learners

- **Assessment / Evaluation**
  - ► The evaluation criteria are based on the learning objectives of the course.
  - ► Assessment takes place throughout the course

- **Development**
  - ► Feedback collection from the learners is planned and scheduled.
  - ► Feedback collection from the learners is planned and scheduled.

Teach and learn virtually

Learn about selected learning, teaching and assessment methods and tools that activate your students and are well suited for virtual studying.

Get to know the following teaching and assessment methods for VLE:

- Live online classes
- Project based learning
- Flipped classroom
- Cooperative learning
- Simulation methodology
- Gamification

- Portfolio assessment
- Peer review

LIVE ONLINE CLASSES

A live online class is that session in which students and teachers, located in different places, share a single digital space (virtual) to connect remotely in real time.

This digital environment allows participants to see and hear each other, exchange messages and documentation in real time, as well as use additional tools and resources that facilitate the interaction and participation of all.

In hybrid systems, it is required that in the physical classroom there is the appropriate equipment of cameras and microphones that allow the interaction of the teacher and the students on equal terms with those who connect to the online session.

How to implement it

Technically, to implement a live online class, it is necessary to have a specific application to carry out online sessions, which allows the connection of all participants and includes the transmission of video and audio, in real time.

Pedagogically, a live online session requires on the part of the teacher, a previous **planning** that allows to develop the contents that he wants to transmit, as well as to promote participation, collaboration, and teamwork, either for groups that are 100% online, as for hybrid sessions where part of the group or the teacher is in the classroom and part connects to the online session.

The fundamental aspects to carry out this planning are the **duration** of the session, the **number of participants** and access to **additional resources** that complement the teaching activity.

As for the **duration**, it is advisable to divide the session into blocks, establishing a script in which time is dedicated to different actions, such as:

► Presentation of the teacher/topic
► Agenda of the session (What topics we are going to deal with and what are the objectives/learning outcomes)
► Teacher explanations and support resources you can use (ppt, videos, images)
► Debates or activities that can be developed at a general level or in a group.
► Dynamics that include polls and / or questions (Wooclap, Kahoot) or collaborative work (Miro or mural type panels)
► Question and answer periods, resolution of doubts
► Breaks
► Recapitulation of ideas, resumes, key ideas.
► Closure/conclusions
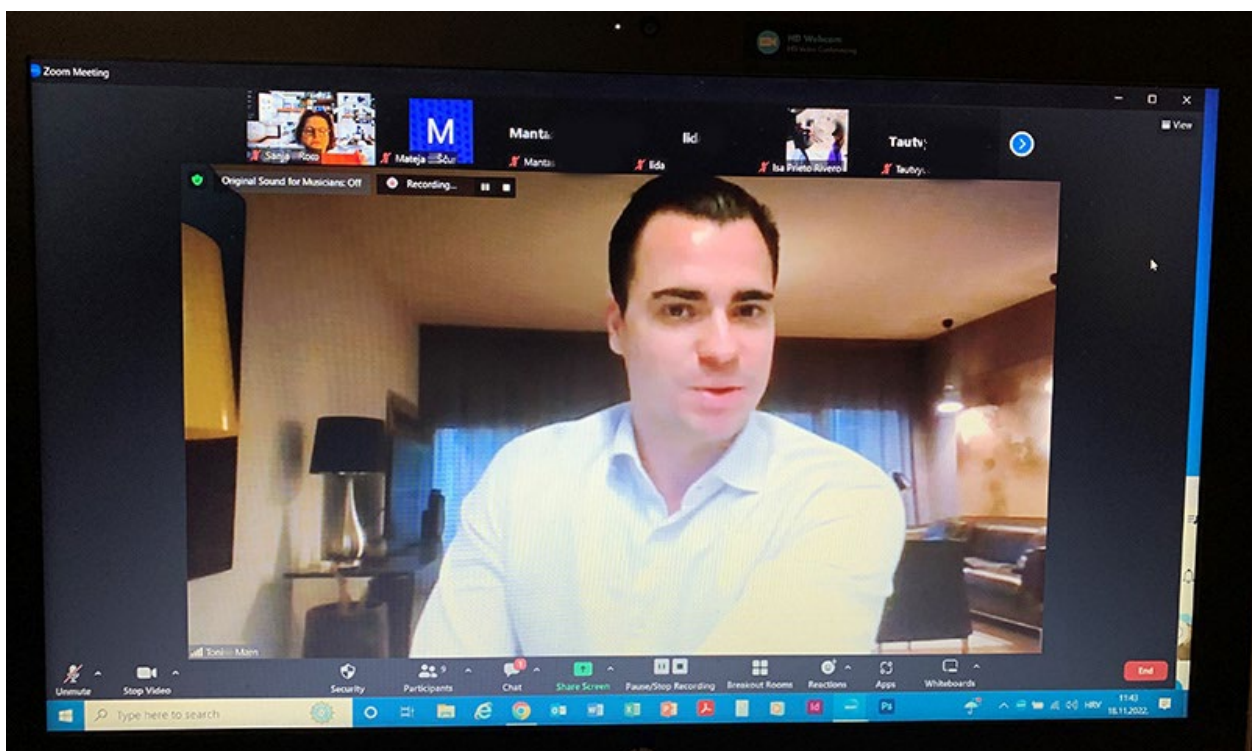
Online classes are the most typical method of teaching online. Online conferencing tools such as Zoom are often used.

The number of **participants** will determine what strategies can be put into practice or not, with respect to the participation of the students, the interaction between them or the dynamics that we can perform.

- ► **In small groups: the participation of students** is further enhanced at any time of the session, through questions, problem resolution or open debates, with the possibility of peer work.
- ► **In medium groups:** It is conducive to work in small groups, with specific moments for the exchange of opinions.
- ► **In large groups:** it is necessary to establish rules for participation, it is advisable to use additional tools that allow the polling and the resolution of problems. It is possible to propose group work, choosing a spokesperson per team.

An important point that we must keep in mind are the basic rules to follow in a live online session, especially if the number of participants is very high. Things like keeping **microphones off** and **asking for speaking time**, setting up **question and answer periods**, using **chat** as a support tool for information sharing.
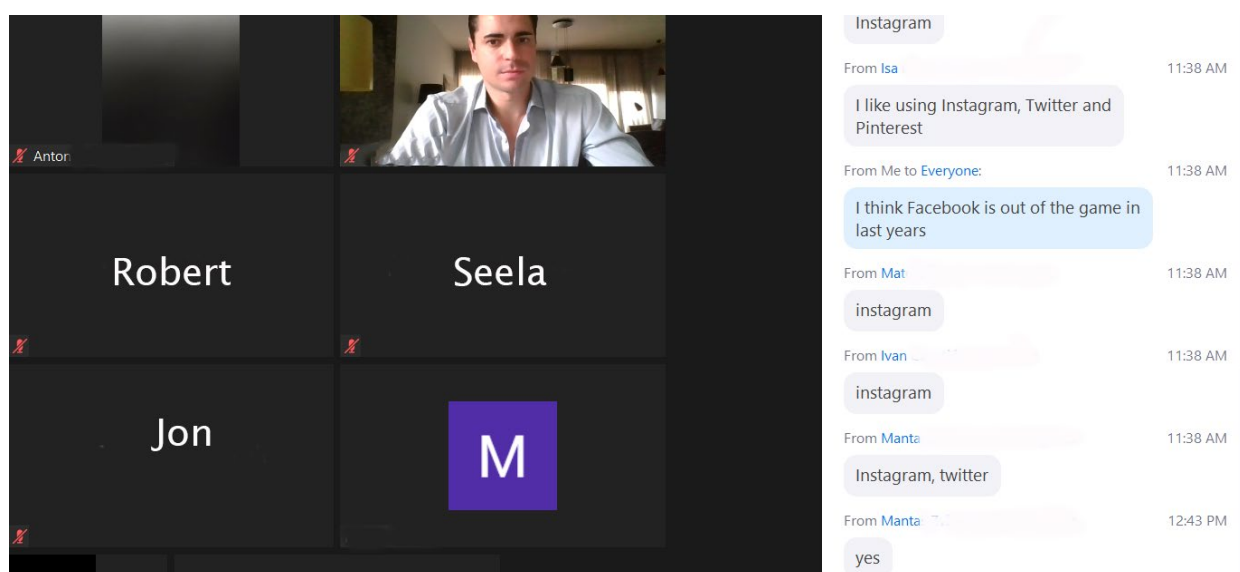
Utilizing chat functionality in Zoom to activate learners.

Regarding **resources**, we talk about the support tools that the teacher has when developing an online session. Most of the platforms to carry out online sessions, allow **you to share the teacher's screen** to show a presentation well, the browser itself or share videos. It is also possible to have **digital whiteboards** in which both the teacher and the students can share a space to draw, outline or write. Many of them have the option to throw **questions** to the group or **surveys**.

In the case of hybrid sessions, the physical space is required to be equipped with cameras and microphones that allow groups to be in the classroom. A point to highlight in this type of classes is the possibility that the session can be recorded, allowing students who have participated or not, to review the contents that have been taught.

How to assess and evaluate it

► Rubric system for student participation or teamwork.
► Test / activities type Wooclap, Mentimeter or Kahoot.

Best practice

► Synchronous distance teaching of radiology clerkship promotes medical students' learning and engagement (Alamer, 2021).

Tools

In Moodle:

There are multiple options in Moodle for Live Online Classes Tools such as:

► Integrated BigBlueButton
► Integrated Teams
► Integrated Zoom

Furthermore, there are options of using PowerPoint/Google Slide Embed Tool which can be used during the delivery of a Live Class.

Outside Moodle:

Video conferencing systems:

► BB Collaborate
► Google meet

Support resources:

► Wooclap
► Kahoot!
► Mentimeter
► Look
► Mural
► Padlet

Live online classes can also be recorded and embedded into the VLE

Resources

► Tips for Designing Live Sessions (Wiley University Services, 2023)
► Synchronous Online Classes: 10 Tips for Engaging Students (Faculty focus, 2022)

PROJECT BASED LEARNING

Project-based learning is a methodology in which students learn by completing a (group) project. Typically, a project starts with a challenging question which is linked to working life.

In project based learning the teacher makes sure that the students have the necessary skills, tools and materials to complete the project. Unlike problem-based learning, where the emphasis is on finding solutions, project-based learning puts the focus on obtaining a product, that is, on the project itself.

How to implement it

The aspects to consider implementing this methodology are the following:

- ▶ The objective of this methodology is for the student to present a **final product** (project)
- ▶ The project must **cover a need or solve one or more problems of real life** of interest to the student and whose resolution implies a certain degree of complexity.
- ▶ Learning is pursued through **group research**, over a **significant period of time.**
- ▶ Learning occurs when **the learner is faced with the process necessary to solve a real problem**.
- ▶ Knowledge corresponds to the **accumulation of knowledge** that occurs every time a problem is solved, or progress is made in a phase of the project.
- ▶ The creation of **heterogeneous groups** is recommended, with students with **differentiated profiles**, favouring **multidisciplinary** and **collaborative work among** the members.
- ▶ On the part of the **teacher**, the clear **definition of instructions** and assume the role of **guide and facilitator** of the process are required.
- ▶ **Students** must **commit themselves to the follow-up of the phases necessary** to address the resolution of the problem, to the **autonomous search for resources** and to **define the way in which the group will work** (distribution of roles and responsibilities)

At a general level, this methodology allows:

- **Promote reflection** and assess the **effectiveness of the research** and the **overcoming of the problems** and obstacles that may arise throughout the project.
- Prepare the student to work in **diverse environments** and collaboratively.
- Boost the **motivation and creativity** of the students, as well as their autonomy in decision making.
- **Put into practice** the knowledge, skills and abilities acquired during the evolution of the project.
- Improve **communication skills**, associated with the defence of the solution obtained.

The way in which this methodology can be applied in the online or hybrid modality requires:

- A session in which the teacher explains the characteristics of the project to be carried out (problem or situation to be solved) as well as the instructions to be followed regarding:
    - **Delivery date and format**, as well as the establishment of milestones or partial deliveries to be met throughout the project.
    - **Tutoring calendar**
    - **Roles and responsibilities** to be established within each team.
- Possibility of online work rooms that offer students a meeting place for teamwork.
- Possibility of collaborative work, through systems such as google drive or one drive for the creation of documents.

Perhaps one of the aspects to highlight in this methodology is the possibility that the teacher has to relate the contents that he is addressing throughout the course, with the phases of the project carried out by the students, being able to involve teachers or students of other subjects and making the work much richer.

How to assess and evaluate it

In this methodology, several types of evaluation can be proposed:

- **Self-evaluation**, depending on both the process carried out and the performance obtained.
- **Co-evaluation** among team members (with rubrics or teacher involvement)
- **Evaluation** of each phase of the process, as well as the final product (preferably with rubrics), which also include both feedback and feed forward.

Best practice

- Problem based learning online: perceptions of health sciences students (Valaitis, Sword, Jones & Hodges, 2005)

Tools

In Moodle

- ► Moodle label tool for the project logo
- ► Moodle book tool to explain the project
- ► URL to link to a Blackboard or other teaching environment for collaboration
- ► Moodle activities to collect the draft projects-in-progress.

Outside Moodle

- ► Virtual rooms for teamwork: Zoom, Teams, Blackboard collaborate, BigBlueButton
- ► Collaborative work: Google drive, One Drive
- ► Presentation Creation Resources: Genially, Canva

FLIPPED CLASSROOM

Flipped classroom is a methodology where students first study the theory independently and after that they meet with the instructor to apply, analyse, and evaluate the information.

Flipped classroom (FC) is an active and reverse learning methodology consisting of student's autonomous work through videos or enriched texts and "face to face" sessions with the teacher to complete tasks with a higher cognitive demand.

With this strategy, theoretical studies can be adapted to the rhythm of each student in the virtual classroom, leaving the synchronous moments with more time available for the teacher to guide the students in the application of the content in different contexts, allowing deep learning. In addition, this methodology integrates perfectly with others such as cooperative learning, ABPs or gamification.

How to implement it

Flipped learning approaches have been identified as important for providing students with pre-class learning activities and freeing in-class time for development of critical thinking, collaboration and application of learning concepts (Fazal & Navarrete, 2020).

Pedagogically, to design a class following the FC methodology, the following points must be considered:

1. the creation of materials for the asynchronous work of the student, keys in this methodology,
2. the mechanisms that ensure the student's commitment,
3. the use of the necessary technology, and
4. probably the most important, the design of activities to apply-complete the learning of those contents with the help of the teacher during the synchronous class (face to face). That is, the

important thing in the FC is not only the video or text that you create for the personal work of the student, but what you do with the free time that you have left during the synchronous class.

We detail below the essential points of the FC:

1. **Creation of materials for autonomous study**. Some premises to take into account for the teaching video to be effective in learning are: make short videos, 6-12 min., (if the content requires more time it will be advisable to fraction it in several videos), use a natural language, do not speak too slowly and do not repeat (students can see the parts they need again), combine image with the spoken explanation, highlight keywords and do not overload the video with music or effects that do not provide an improvement to the content so as not to occupy working memory. There are many possible formats to create videos (lightboard, hand drawn, demonstration, screenshots), but without a doubt, the most efficient are those in which the teacher appears, so that the student can empathise with his teacher and also learn through his body language. In any case, choose the format with which you feel most comfortable and that fits with the content you must teach.

2. **Enriching the video, text, or other materials to ensure student engagement and to promote** their metacognition process. Promotes an active visualisation by accompanying the video or reading of the document with questions or activities that are carried out before, during or after its visualisation. This will allow students to know their level of understanding of the content, and the teacher to prepare the subsequent synchronous class adapted to the results they have obtained. In addition, the video curation tools allow you to know the progress of the student which ensures their commitment to the pre-class task "face to face". In the case of using texts instead of videos you can use the same strategy of enriching the content with the appropriate tools.

3. **Design tasks that allow you to apply and complete the content studied autonomously to perform in the synchronous class.** Start the class by solving doubts or making a map or scheme that includes what was studied in the video, but never repeat the explanation of the content because that could promote that students do not perform the previous task on the next occasion. If there are students who have not studied the content before class, they will be able to do so individually at that time and join the completion of tasks afterwards. Design challenging activities, which force the student to think about what has been previously studied, evoke the contents and apply them in different contexts. Constantly monitor the performance of activities and support them with new explanations.

4. **Combine this methodology** with others if you wish. The time free of explanations left by the FC facilitates the use of PBL, AC or gamification, among others.

How to assess and evaluate it?

The evaluation of both the asynchronous work and the tasks proposed during the "phase to face" work can be evaluated by:

- ► Questionnaires. Be sure to add feedback to the results so students can self-assess.
- ► Problem or practical cases to receive an evaluation by peers or by the teacher.
- ► Participation in forums.
- ► Participation in wiki or shared documents.
- ► Evaluation of content created (videos, infographics, podcasts, group work)

TASKS TO DO BEFORE ONLINE MEETING (11th of October, 2022) **.DOCX** ☆ ▣ ☁

Failas   Redaguoti   Peržiūrėti   Įterpti   Formatas   Įrankiai   Pagalba   Paskutinį kartą redaguota 2022 m. rugsėjo 19 d.

PREPARING FOR THE LECTURE „THE DEFINITION OF CAREER. CAREER DEVELOPMENT THEORIES. MAKING CAREER DECISIONS"?

Before meeting with the teacher in asynchronic lecture on the 11th of October please do the following tasks:

1. Think about the term „career ". What this term means to you? Please do brainstorming and write 4-5 words or combination of words which associate to you with the term „career "?

2. Watch the move (https://www.youtube.com/watch?v=AO1Txp8D_8U&t=9s) and fill the table below:

Example of a instructions for a flipped classroom.

Best practices & resources

► Can Flipped Learning Work in Online Courses? (Fazal Minaz & Navarrete Cezar, 2019)

► Flipped Classroom: Active Methodology for Sustainable Learning in Higher Education during Social Distancing Due to COVID-19 (Collado-Valero, Rodríguez-Infante, Romero-González, Gamboa-Ternero, Navarro-Soria & Lavigne-Cerván, 2021)

► Flipped Classroom model before and during COVID-19: using technology to develop 21st century skills (Latorre-Cosculluela, 2020)

► The flipped classroom in medical education: A new standard in teaching (Phillips & Wiesbauer Franz, 2022.

► Development of an instructional design model for flipped learning in higher education. (Lee, Lim & Kim, 2016).

Tools

In Moodle:

- ► Kaltura
- ► Embedding videos, games, Livescribe Pencast
- ► Forum Tool
- ► Quiz Tool
- ► Book Tool

Tools for video creation:

- ► Explaineverything
- ► Power Point
- ► Screencastify
- ► Stopmotion

Tools for video editing:

- ► Adobe Premiere
- ► DaVinci Resolve
- ► IMovie
- ► VideoLouder

Tools for video enrichment:

- ► Edpuzzle
- ► Kaltura
- ► Hihaho
- ► IBM Watson
- ► MELO
- ► EdApp
- ► G Suite for Education

Tools for text enrichment:

- ► Perusall

An interactive video with questions embedded in the Kaltura application

COOPERATIVE LEARNING

Cooperative learning (CL) is a methodology that promotes the development of interpersonal, social and teamwork skills, decisive for both academic and professional and personal success of the student. The CL is much more than group work, since it is also applicable to the master class. This methodology improves student autonomy and promotes deep learning.

There are three types of cooperative learning: formal, informal or base group:

► The formal CL is used for specific activities (resolution of exercises, practical cases, projects, content creation) that can occupy a class session or several and be carried out synchronously or asynchronously.
► The informal CL is used to energise an exhibition class, facilitating the learning of students by generating interactions between them, in pairs or small groups.
► The base group refers to groups of help or study, which can occur between students of different subjects or courses, and that are prolonged over time.

How to implement it

Pedagogically a class or activity of formal and informal CL, must be designed in such a way that ensures the 5 pillars of this method:

1. **Positive interdependence.** The success of the group depends on each of its members, so that each of them is enriched by the team.
2. **Individual responsibility**. Each person is responsible for their role within the group.
3. **An encouraging face-to-face interaction**. It should be facilitated in meeting and communication between the members of the team.

4. **Interpersonal skills**. In the CL in addition to the contents or technical competences, the learning of social skills (HHSS) is sought.
5. **Group processing**. The group reviews not only their results but their individual and group work and makes decisions that help them strengthen the group.

To structure the CL it is important to take into account which phases will be carried out asynchronously, that is, in the time of autonomous work of the student, and which will be carried out in the synchronous class. Whatever the format technically, we must take into account:

► **Team formation.** To enrich the work of HHSS and improve students' concentration on homework, heterogeneous groups of 4-6 members should be formed in the formal CL and 2 members for the informal CL. For this, the group rooms of the videoconferencing platforms can be used or the groups can be previously designed using the Moodle group tools.
► **Assignment of roles, distribution of material, distribution of tasks**. To ensure interdependence and individual responsibility it is advisable to distribute roles (spokesperson, reviewer, time manager, animator etc.) , materials (parts of a larger exercise, parts of information etc) or phases of a task (search for information, writing, creation of presentation, study of parts of a content, etc.).
► **Select the tools** that allow CL asynchronously or synchronously. It will be essential to use shared documents that cover the needs associated with class dynamics and asynchronous work.
► **Select the CL dynamics** that will be used in the synchronous class. To secure the pillars of the CL in the formal group you can use different dynamics (Jigsaw, pencils in the centre, 1,2, 4, etc …) using digital tools that allow it. For the informal CL we must fragment the class according to Johnson & Johnson (1999):
  o Initiatory activity in small groups (2-3 people) that places the student before the learning action that will begin. It is about awakening motivation and activating previous knowledge. The activity can be the visualisation of a video, news, answer an open question, make a shared writing etc.
  o Activity in couples interspersed every 15-20 minutes of explanation. Solve a problem, answer a question, review notes, shared writing, … would be some of the proposed activities. The way to realise them would be: each student individually gives their own answer, then they share it and must reach a consensus answer. If asked by the teacher, any student should be able to defend the result agreed with their partner.
  o The closing activity of an informal CL class should be done again in pairs or small groups and aims to allow the processing of new apprenticeships and their integration into previous knowledge.
► **Group evaluation and processing**. To ensure individual responsibility it is convenient that in addition to the group evaluation, there is an individual evaluation. But in addition to ensuring the evaluation of knowledge, it is important that the group dedicates a space to process their way of working and to look for strengths and points of improvement.

DESCRIPTION OF FINAL GROUP WORK

"Public Person X: Expression of Career Design and Well-being"

The goal of integrated task. To prepare a written work (MC Word; about 10-15 pages) and slides (Power Point, Prezi, etc.;). Oral presentation should take about 20 minutes. After the presentation for about 10 minutes the discussion will take place. For the homework you should choose public person* (worldwide known, not only locally known) who has had a positive or negative impact on society / target audiences. It must be **today's acting person** (not historical person), **well known public person** all over the world (influencer, politician, actor, writer, sportsperson etc.) and analyze his/her career to below given criteria. We suggest before starting to do your homework to consult with the teacher if your selected person is appropriate for the homework.

Teamwork: 4 students in one group. The students into the groups will be divided during the first online lecture on the 4th of October.

STRUCTURE OF THE WORK

I PART: DESCRIBING THE CHOSEN PUBLIC PERSON AND ANALYZING HIS/HER PERSONALITY TYPE ACCORDING TO HOLLAND THEORY (3 points)

- describe the chosen person: his/her biography, family status, education and current professional activities. Present the achievements of this person due to which he/she is famous (1,5 points)

- analyze to which personality type (or combination of types) according to Hollands' theory the person belongs, justify your opinion (1,5 points)

II PART: (SELF)PRESENTATION IN MASS MEDIA (5 points)

Analyze the self-presentation of a chosen person in mass media. 3 media fields:

- **Personal website (or blog).** Conduct a *qualitative content analysis*. Mention the rubrics (headlines) and describe

their content, mention what social networks (other channels) are used, what information is hyperlinked (1 point).3

- **Personal social network profiles/pages**. Choose 2 of the previously mentioned pages and conduct a *quantitative and qualitative content analysis* for a period of a month to a year (around 50 posts). Count of posts, describe the topic of each post. Analyze the feedback: Quantify the number of followers, identify the main topic of the most popular posts, quantify the engagement with content ('likes', 'reactions' per post, make an average or a ratio of positive/negative comments), quantify the number of comments/responses, identify the main idea in each comment and the balance between positive/negative. (2 points).

- **Mass media**, preferably digital media, but legacy media (newspapers, magazines) is acceptable as well. Conduct a *Quantitative and qualitative content analysis*. Choose **2 news portals** (BBC, CNN, CNBC,etc.) and use the search field to find publications on the same person, for the period of a month to a year (around 50 publications). Count the publications (short informative messages, articles, interviews, etc.). Describe the topics of the publications, if available analyze available feedback (using the same criteria as in social networking sites). (2 points).

An example of Cooperative Learning task.

How to assess and evaluate it

- ► Rubrics for co-evaluation, self-evaluation and hetero evaluation.
- ► Social skills checklist.
- ► Questionnaires, open questions, problems, cases.

Best practices

- ► Setting up and facilitating group work (Brame & Biel, 2015).
- ► Cooperative Team Learning and the Development of Social Skills in Higher Education. The Variables Involved (Mendo-Lázaro, León-del-Barco, Felipe-Castaño, Polo-del-Río & Iglesias-Gallego, 2018).

Tools

In Moodle

- ► Video conferencing tool that allows you to make group rooms: Blackboard, Zoom
- ► For collaborative work: Wiki
- ► For peer review (P2P): Workshop.
- ► For individual assessment: Moodle questionnaires.

Outside Moodle

- ► For random team building: Board Game
- ► For real-time collaborative work: Paddlet, Miro, Mural, Trello, Office 365, Google drive, Nearpod.
- ► For the evaluation: Socrative, Wooclap, Mentimeter, Nearpod, Corubrics

Resources

► Meaningful and manageable assessment through cooperative learning (Johnson & Johnson 1996)
► Cooperative learning in the classroom. Johnson, Johnson & Holubec, 1999.
► Students' experiences of active engagement through cooperative learning activities in lectures (Cavanag,h 2011).
► High versus low-structured cooperative learning. Effects on prospective teachers' regulation dominance, motivation, content knowledge and responsibility (Cecchini, Fernandez-Rio, Méndez-Giménez, Gonzáles, Sánchez Martínez & Carriedo, 2021)
► Cooperative learning at university: opinion of students and application of the instrument Cooperative Learning Questionnaire (CLQ) (Conde Vélez, Delgado-Garcia & Toscano Cruz, 2021)
► Effects of Cooperative Learning on the Improvement of Interpersonal Competence among Students in Classroom Environments (Han & Son, 2020).

SIMULATION METHODOLOGY

Simulation methodologies allow the student to put into practice theoretical knowledge in controlled environments, representing situations close to the work environment. The goal is to "recreate" a real-life situation in which students must make decisions and can analyse the results, putting their skills into practice without fear of failure, learning from their successes and mistakes.

The particularity of the online environment is that it allows students to experience the practice of a certain discipline, activity, or task without having to be physically in a real environment.

How to implement it

To address the simulation methodology in online experiences, the following aspects must be taken into account:

- ► **Starting from a "real" problem or situation,** bearing in mind from the beginning the steps that the student must take, as well as the final objective to be achieved (for example: Diagnosis of a patient, conflict resolution in work teams, use of software to perform a certain task)
- ► **Reliable environments** and characters. The idea is that the student has an experience as close as possible to what will be the task to be performed in a real situation, hence both the environment in which this task must be developed and the people with whom he can relate, if it

were the case, must be the closest to reality (video and / or images and sounds of the workplace, interface of an application, patient with a specific symptom, type customer of a company)
► **Common processes, skills, and tools**. Like the environment and the possible people who make up a real scenario in a simulation, the steps to follow and the tools and resources that are needed to re-analyse them must also be adequate to carry out the task or achieve the objective that is proposed to the student.

A detailed outline of steps to follow and the correct workflow to perform the task must be made, anticipating the usual errors, the way in which a certain situation can be corrected or redirected.
The more complete the experience, the simulation will make much more sense.
The simulations can start from relatively simple activities such as a **decision tree** in which, according to certain situations, different alternatives or options are proposed for the student to choose the most appropriate and choose to follow one way or another. A list of questions, accompanied by an image or description of the environment, appropriate feedback for each of the steps taken and reach a goal (or not).

The same scheme above can be developed using **videos** in which each phase or situation is recreated in small scenes in which the starting point and what happens is shown, making one decision or another. Applications that allow interactive videos can also be used.

In the case **of software learning**, the use of simulations is already highly developed and there are specific tools on the market that capture each step that a user takes and its results, without the need to have such software installed on the student's computer (Captivate is one of the best known)
On the other hand, there are specific simulation systems for certain disciplines, such as the practice of **medicine.**

Other disciplines that involve the **use of laboratories** such as chemistry or physics, also allow students to perform simulated practices , as if it were a real environment.

There are also **simulation programs for business**, specialised in areas such as finance, marketing or management and that allow students to face situations similar to those they may find in the work market.

Finally, there are complex simulation systems based on **virtual reality**, in which the student can experience an immersive situation as if it were real life. The selection of the type of tool will depend to a large extent on the resources available to the institution.

How to assess and evaluate it

It should be valued not only the accuracy of the task or action to be performed, but also the process, also measuring the progress of the student. Including short questions throughout a simulation or establishing a rubric system to evaluate the different phases of performance in a simulated situation, can be accepted evaluation systems for this methodology.

On the other hand, when recreating real situations in specific sectors in which unavoidable steps must be taken, the mere fact of reaching the final goal (repairing the breakdown of a piece of equipment or performing a diagnostic test)   is a way of assessing and evaluating learning.

Tools

In Moodle

Although there are no built in Simulation Tools in Moodle. You can easily add the following tools to your Moodle platform for simulation;
- ► Virtual Lab for Moodle
- ► Labster Simulations
- ► PraxiLabs Simulations for Moodle

Outside Moodle

- ► Tools to design Decision Trees (with or without scorm tracking): Storyline, isEazy Author
- ► Captivate and Storyline (Software simulations)
- ► Business simulators: Hubro education or Gestioned

Medicine/Nursing:

- ► Full code   https://full-code.com/
- ► Body interacts   https://bodyinteract.com/
- ► Patient Sim   https://www.patientsim.co.uk/

Online laboratories:

- ► Labster   https://www.labster.com/chemistry-virtual-labs/
- ► Online laboratories   https://onlinelabs.in/chemistry
- ► Online laboratories II https://library.csi.cuny.edu/oer/virtuallabs-simulations

Resources

► What Is An eLearning Simulation And How Do You Create One? (Sengupta, 2019)

► 5 Instructional Design Tips to consider for simulation training (Hughes, 2019)

► Engaging Learners Through Simulations Is Easy With These 4 Tips (McCool, 2021)
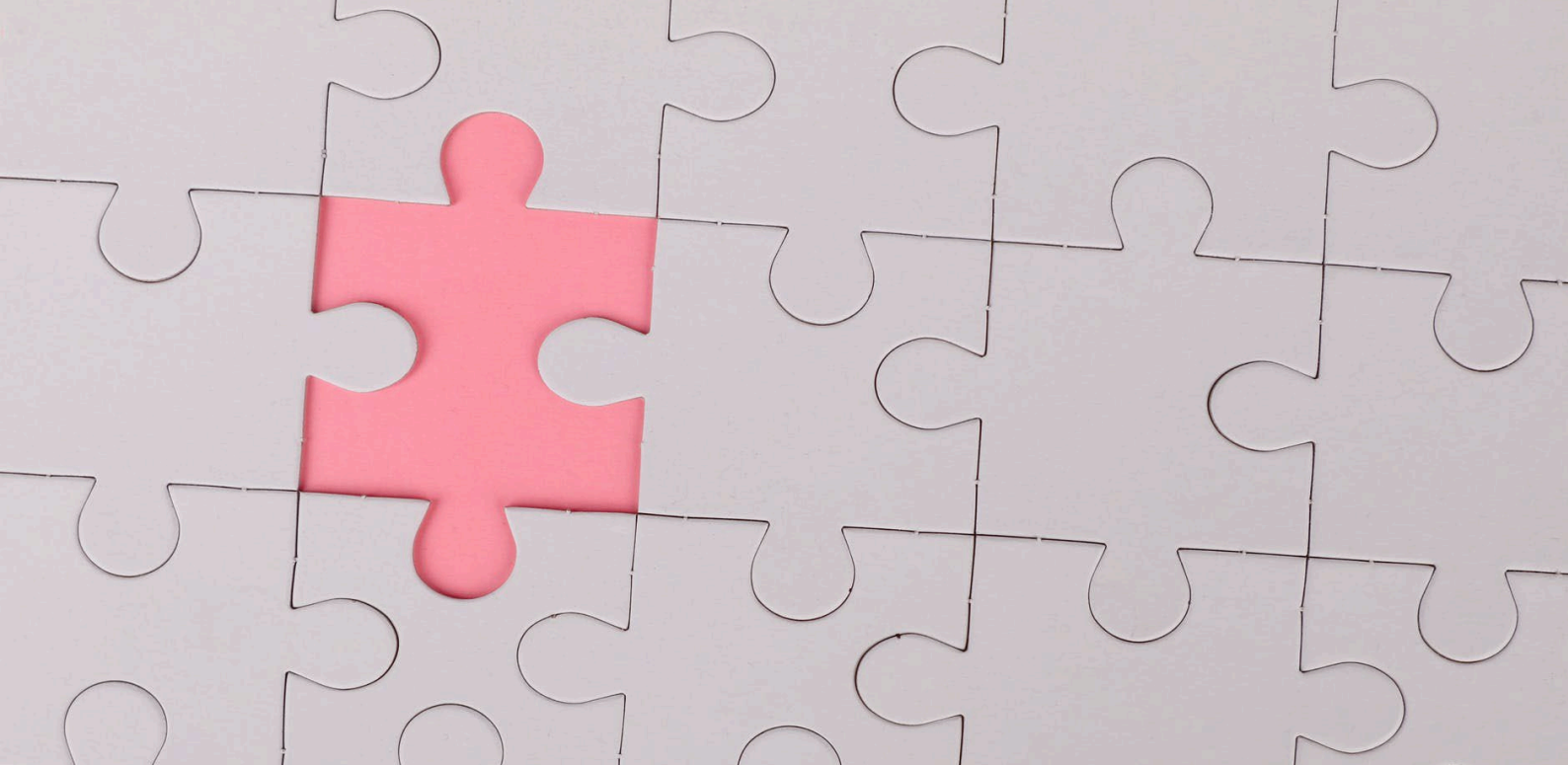
GAMIFICATION

Gamification incorporates elements of game design to take advantage of them in the educational context. It is not about using games themselves but taking some of their principles or mechanics such as points or incentives, narrative, immediate feedback, recognition, freedom from making mistakes, etc., to enrich the learning experience
(Deterding et al, 2011; Kim 2015)

Gamification is a very widespread term in the educational world in recent years, however, there is a lot of confusion regarding its meaning, so it is important to differentiate different concepts that seem synonymous and are not. According to the Observatory of Educational Innovation of the Tecnológico de Monterrey (EduTrends. Gamification in Education, 2016), there are differences between Game-Based Learning (GBL), Serious Games and Gamification.

The GBL makes generally use of games that already exist, whose mechanics are already established, and are adapted so that there is a balance between the subject of study, the game and the ability of the player to retain and apply what is learned in the real world (EdTechReview, 2013).

They seek to influence the resolution of real problems in manufactured environments that simulate real life. Although they can be fun, this is not the intention for which they are created (Wouters, van Nimwegen, van Oostendorp & van der Spek, 2013).

How to implement it

In education you must consider the following factors to design gamification:

- ► **Context**: Identifies the characteristics of the students, their interests and needs, as well as the personal, material, and technological resources available.
- ► **Timing**. Decide if you are going to spend a whole semester, several weeks, 2 or 1 session a week.
- ► **Narrative**. If anything differentiates gamification from the use of games in class, it is that there is a narrative as a common thread of all the activities and events created for gamification.
- ► **Relationship** with the **curriculum**. Define the objectives of gamification (of the game or narrative) and the curricular contents that will be worked.
- ► **Gamblers**. Decide it will be an individual or group work.
- ► **Game components**: This includes the digital platform(s) on which the game will be mounted and the different tasks or challenges and evaluation systems.
- ► **Elements** of the **game**: To design a Gamification strategy it is not necessary to consider all the elements indicated below, but to take those that due to their characteristics may be more valuable for the learning experience that is sought to achieve.

Some of the aspects and elements of the game indicated by the Observatory of Educational Innovation of the Tecnológico de Monterrey (2016) that describe them are the following:

- ► **Goals and objectives**: Challenges, missions, epic challenges.
- ► **Rules**: Game restrictions, assigning turns, how to earn or lose points, stay alive, complete a mission, or achieve a goal.
- ► **Components of the narrative**: Identities, characters or avatars; worlds, narrative scenarios or three-dimensional environments
- ► **Freedom to choose**: Different routes or squares to reach the goal, options to use powers or resources.
- ► **Freedom to make mistakes**: Multiple lives, restore or restart points, unlimited number of possibilities.
- ► **Rewards**: Virtual coins or resources, lives, equipment, access items, limited powers.
- ► **Feedback**: Visual cues, signs of correct or incorrect response or behaviour, progress bars, warnings about risks that are taken when performing a certain action, statistics of the player's performance.
- ► **Visible status**: Badges, points, achievements, results obtained, leaderboard.
- ► **Cooperation and competition**: Teams, guilds, help from other participants, areas of social interaction, communication channels, bartering, battles, combats, leaderboard.
- ► **Time restriction**: Countdown; to be able to make a profit only in a certain time.
- ► **Progress**: Tutorials for initial skill development, experience points, levels, progress bars, and access to blocked content.
- ► **Surprise**: Random rewards, Easter eggs (hidden features), special events.

How to assess and evaluate it

Qualify. You can enter online questionnaires that allow you to visualise the progress of your students quickly and easily. There are many digital tools for this purpose:

► Socrative. It is a formative assessment tool that favours the real-time participation of students. It allows to create multiple-choice, true, or false or short-answer questionnaires and include a ranking of results.
► Kahoot. It is a free platform that allows you to create question and answer games quickly and easily. This tool rewards those who obtain the highest score, placing them at the top of the ranking.
► Mentimeter, Nearpod, Wooclap
► Flipgrid. The social skills and competencies associated with this methodology will be evaluated by rubric or watch list.

Resources

► A gamification framework to enhance students' intrinsic motivation on MOOC (Anwar, Salam, Saputro, & Zakaria , 2019).

► Fostering Engagement with Gamification: Review of Current Practices on Online Learning Platforms. (Hansch, Newman & Schildhauer, 2015).

Tools

In Moodle (created with the H5P tool)

Drag and drop

The Drag and drop is a task type that can be created with H5P tool in Moodle. It enables students to drag a piece of text or an image and drop it on one a corresponding drop zone.
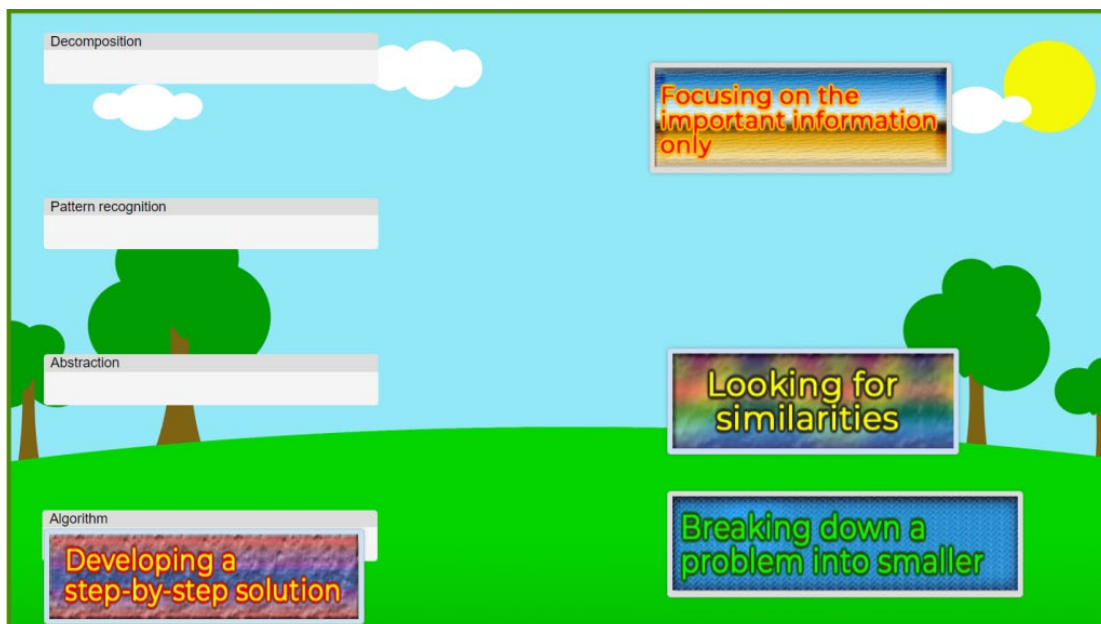
Crosswords

Crossword puzzle is a type of word jigsaw puzzle. The purpose of the puzzle is **to encourage persons to form words in the grid based by answering questions**. This tool can be created with the H5P tool.
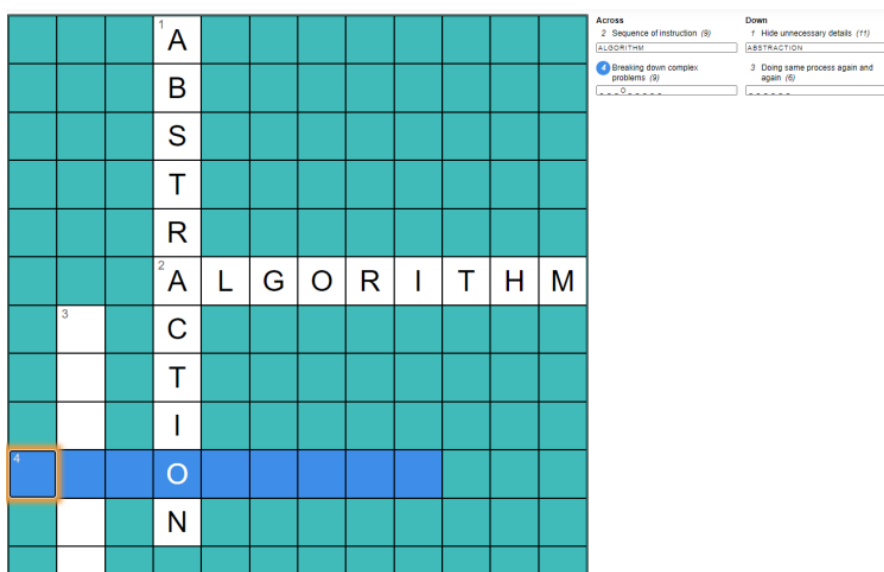
Drag the words

Drag the word to (created with H5P) enables users to drag words into blanks in sentences.

Drag the words into the correct boxes

1. _____ is the step that comes before programming.
2. Computers can be used to help us to [solve] problems.
3. There are _____ key concepts to computational thinking.
4. [Decomposition] is the breaking down a complex problem or system into smaller, more manageable parts.
5. The [Abstraction] is focusing on the important information only, ignoring irrelevant detail.
6. [Algorithms] are developing a step-by-step solution to the problem, or the rules to follow to solve the problem.
7. The _____ is looking for similarities among and within problems.
8. You can divide any task like brushing teeth, drinking water, washing a face into the _____ tasks.

● Check

Computational thinking
smaller
four
Pattern recognition

❯

Fill in the blanks

In the fill in the blanks question type the users can fill in the missing word in a sentence. This task can be created with H5P too.

Fill in the missing words

1. MS [Excel] is spreadsheet software.
2. Formulas in Excel start with [____]
3. [____] function in MS Excel worksheet represents the total of all entries in the cell(s).
4. [____] function in MS Excel worksheet represents the average of all entries in the cell(s).
5. [____] function in the MS Excel worksheet represents the maximum of all entries in the cell(s).
6. [____] function in MS Excel worksheet represents the minimum of all entries in the cell(s).
7. The intersection of row and column is called a [____]
8. [____] Sheet option is used to lock all of the cells from editing in a workbook.
9. The [____] is used to add a note or explain a formula in a cell.
10. A [____] is a powerful tool that allows you to visually display data in a variety of different graphical formats.

● Check
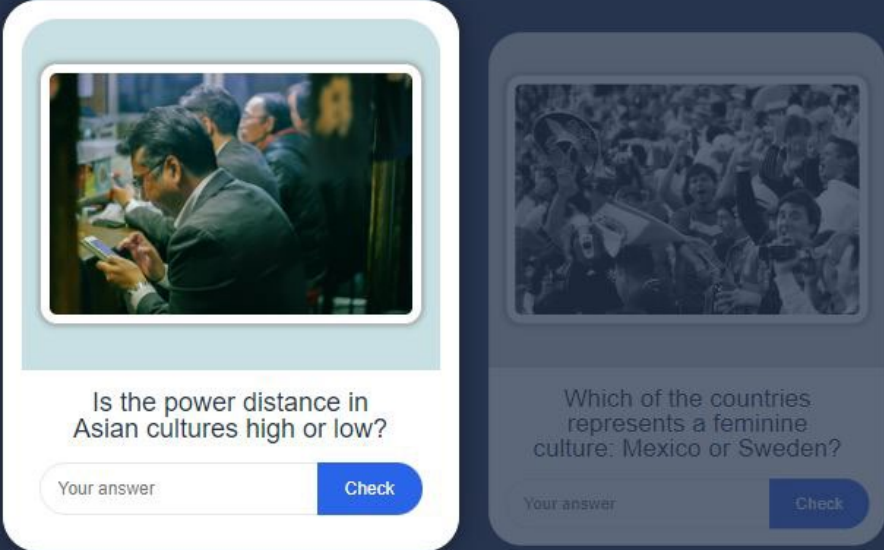
↺ Reuse   ◇ Embed   H-P

Flash cards

H5P flashcards have images paired with questions and answers.

Image pair

Image pair question type allows teachers to create pairs of images to be matched.

Image choice

In the image choice question type, the students select the image that represents the right answer.

Mark the word

Mark the words allows teachers to create challenges where the user is to mark specific types of verbs in a text.

Quiz

The quiz tool allows to create challenges where the user is to mark specific types of verbs in a textusing the finances of a one year at the time.

Which of the berries listed below are berries you can pick in the wild?

☐ Strawberry

☐ Blueberry

☐ Cloudberry

☐ Raspberry

☐ Halle Berry

☐ Cocktail cherry

✓ Check   ❯

Interactive book

Interactive book tool allows users to organise together different types of interactive content like interactive videos, questions, course presentations and more on multiple pages under chapters.

Tools outside Moodle

Digital media:

1. **MyClassGame:** A free software web application that allows you to create gamified cooperative projects. That is, applying gamification strategies when using methodologies such as Project-Based Learning (PBL) and Cooperative Learning.
   Its navigation is very simple: the class is created (it allows you to import the list from Google Classroom so you do not have to register the students again), the teams are created, which will work cooperatively, and the components of the game are detailed (events, challenges, penalties, reinforcements, badges, etc.).
2. **Minecraft: Education Edition** is a Microsoft platform that allows you to build educational experiences through the generation of "worlds". The Education version includes the possibility of playing individually or multiplayer, favouring group learning, and tools for evaluation.
3. **Classcraft** is a platform for creating guided role-playing games. Includes challenging characters and points system.
4. **Genially** is a widely used tool to create animated resources, presentations and interactive images and also offers templates that you can adapt to your needs to create gamified experiences.

Create avatars. There are several websites that allow you to create avatars in a simple way e.g. Avatar Maker.

Create playful activities: create activities with your content from game templates and timed quizzes:

1. **LearningApps.** Very simple to use website with which to create interactive activities (alphabet soup, crossword puzzle, puzzle, paragraphs with blanks, couples game, …) that allows you to include text, image, audio and video. In addition, there is a repository created by other users organised by subjects.
2. **EducaPlay**. Global educational platform that allows you to create and share educational multimedia activities. Relate, sort, dictate, questionnaires, are some of the activities you can create with this website.
3. **Genially**. This website contains numerous templates that will make you gamify your class or evaluation activities. Trivial, game of the goose, breakouts, roulette, are just some of the examples of games to create with your contents.
4. **Decktoy**. It is a web tool through which gamified itineraries can be created for students. The activities are linked within a circuit, so that progress cannot be made without completing the previous ones.

Create Cards: Generate cards, with different aesthetics, to assign roles and "powers" to your students.

Create Documents: Customise documents to streamline the game.

Generate QR code: Use QR codes to generate curiosity, "hide" documents or clues.

Extra elements: It introduces other characteristic elements of some games, knowing that time, for example, can generate stress and retract the student's response.

Tools for the design of your **escape room or break out**:

- ► Digital lock generator
- ► Timer

Reward system: Despite being an extrinsic motivator, you can hand out points, give medals or use a leaderboard with your students when they have achieved a challenge or completed a part of it. It is what is called as PBL, which responds to the acronym Points, Badges and Leaderboards.

Resources

Example exercises on the H5P website, similar to what can be created on Moodle:

- ► Drag and Drop: https://h5p.org/drag-and-drop
- ► Crosswords: https://h5p.org/content-types/crossword
- ► Drag the Words: https://h5p.org/drag-the-words
- ► Fill in the Blanks: https://h5p.org/fill-in-the-blanks
- ► Flashcards: https://h5p.org/flashcards
- ► Image Pair: https://h5p.org/image-pairing
- ► Image Choice: https://h5p.org/content-types/image-choice
- ► Mark the Words: https://h5p.org/mark-the-words
- ► Quiz: https://h5p.org/question-set
- ► Interactive Book: https://h5p.org/content-types/interactive-book

PORTFOLIO ASSESSMENT

A portfolio is a space (in this case, digital) in which the student records "evidence of their learning" throughout a course or subject, using different resources. This evidence can be shared with their teachers so that they   can monitor and assess this evidence and therefore, the achievements of each student.

Alternatively, the portfolios can also be shared with the rest of the classmates, which allows, on the one hand, to offer different points of view on the learning process of each student, as well as the exchange of impressions, meeting points or debates. Finally, portfolios can be made public, transcending the purely academic field and becoming a window into the world of work.

How to implement it

Helen Barrett (2023) defines a series of steps to follow to develop a portfolio:

► **Purpose**. Establish a consensual starting point between the teacher and the student, in which the objectives and procedures to be followed are defined. Students can be asked questions such as: what do you want to show? What is the point of making this portfolio for you?

An important point at this stage is to define the "digital support" in which the portfolio will be developed, which can range from Google sites or blog-like applications to tools for web design such as WordPress or more sophisticated such as PebblePad. The idea is that each student has a "space" in which they can record the evidence of their learning in multiple formats.

- ► **Collection of evidence and classification.** Students must be free to choose the resources with which to support this evidence: photographs, illustrations, videos, audios, texts… In some cases, it is important that this collection of evidence is chronological.
- ► **Reflection on the activity**. At this point, a first reflection is made on the evidence provided and the learning process. This **reflection is about the activity or action in the present tense** and that answers the question: What am I learning now?
- ► **Co-exposure, interaction, dialogue, and feedback.** This stage opens a period of shared reflection, in which the exchange of ideas with both the teacher and the rest of the classmates comes into play and where feedback is one of the most important aspects.
- ► **Reflection on achievements.** In this stage we reflect on the achievements achieved in which the question to be answered would be: What does this selected work show about my learning outcomes?
- ► **Selection, evaluation, and reflection (in the future).** At this stage, the final portfolio is presented in which the achievements are documented, a retrospective reflection is made, and new future goals are proposed. At this stage, both self-evaluation and evaluation are carried out, based on rubrics.
- ► **Presentation/Publication**. Decision of what and at what time to make it public, and under what conditions.

Additional aspects to consider are:

- ► Give clear indications about the work to be done and the evaluation criteria to be used.
- ► Set a number of specific items and purposes, as well as a set time to get the job done.
- ► Accompany and facilitate the processes of reflection, feedback and self-evaluation.

Examples

- ► Student ePortfolio examples (Salt Lake Community College, 2023).
- ► ePortfolios for Reflection. 7 best practices (University of Denver, 2018)

How to assess and evaluate it

One of the resources that is almost dispensable to assess and evaluate a portfolio are the **rubrics**, preferably shared and agreed with the students previously.

The main advantages offered by rubrics are:

- ► decrease in the margin of error motivated by subjective factors.
- ► the student knows the evaluation criteria from the beginning, which allows him to regulate his learning.
- ► facilitates on-line feedback between students and teachers.
  (Balart & Cortés, 2015)

Checklists as well as **tutorials** are also recommended in order to help and guide the student in their learning process.

Tools

In Moodle

- ► The Activity Completion Tool
- ► Course Completion Tool
- ► Checklist Tool
- ► Moodle Reports Tool

Outside Moodle

- ► PebblePad
- ► Google sites
- ► Brightspace
- ► Filiotek
- ► Mahara
- ► myEdu

Best practice

Featured student e-portfolios (Portland State University, 2023)

Resources
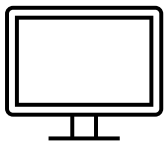
- ► ePortfolios with GoogleApps (Barret, 2023)

- ► Is the future of ePortfolios in your pocket? (Barret, 2023)

PEER REVIEW

Peer evaluation has traditionally been used in the scientific field and currently as part of the systems of continuous improvement of teachers.

Increasingly used in education, peer review provides a structured learning process for students to critique and give each other feedback on their work.

This methodology gives social interaction a relevant importance in the face of the construction of knowledge in that it helps students develop lifelong skills to evaluate and provide feedback to another. The student becomes with this system a mediator of learning offering his peers more adjusted to their needs, making knowledge their own through cooperative processes of internalisation and self-regulation. In addition, this methodology makes the continuous evaluation of large groups sustainable.

The mechanisms implicit in social relations can be harnessed for the construction of knowledge. In this sense, Sánchez G. (2015) collects the following mechanisms of a relationship between equals as promoters of learning:

1. Cognitive conflict, due to the existence of different points of view. This generates situations that allow them to confront divergent points of view, which promotes the rethinking and revision of ideas, beliefs and forms of learning of their own, generating an enrichment of the task and therefore of learning.

2. Organisation and commitment to the shared task, through the elaboration of goals and plans that facilitate the joint and individual work of learning.
3. Mutual help and error management, so that the advantaged students provide precise and adapted help to their peers.
4. Communication skills and use of a shared language, so that learning is reaffirmed through explanations, listening, questioning and discussion among peers.
5. Motivational and affective mechanisms, derived from the good relationship that must exist between students so that peer evaluation is effective and also provides a sense of learning.

How to implement it

The types of peer review are:

1. **Formative Feedback** – Students provide constructive feedback on draft assignments. Small feedback groups could be incorporated in which written comments can be explained and discussed with the recipient. Students can then make appropriate changes to the assignment before presenting the final product.
2. **Peer Rating** – Students assign grades to their peers based on assessment criteria using a rubric. This grade is done through online tools that randomly and anonymously distribute the assignments so that they are reviewed by a certain number of other students, and the final score of the task is usually calculated by taking the average value of all the grades of the classmates who have received that task.
3. **Peer review** of participation in a group work – Students give a score of participation, contents and competencies for each member of the group using a rubric provided by the teacher.

Peer assessment can be designed openly, encouraging comparison and debate, or anonymously, depending on the assessment task and context.

Depending on the objective, peer review can be structured in two ways:

Peer formative assessment:

► Identify a task where students can benefit from peer review, or divide an assignment into parts that allow for draft submission and review.
► Explanation of the task and evaluation criteria (showing examples of both)
► Students complete and submit a draft of the assignment.
► Students evaluate other students' drafts by rubric and/or leave constructive comments.
► Students reflect on the feedback received and incorporate what they see fit for the final presentation of the assignment.
► The works are evaluated and qualified by the teacher.

Peer summative evaluation:

► Explanation of the task and evaluation criteria (showing examples of both).
► Students complete and submit a final assignment.
► Students evaluate the assignments of 2-4 other students using the grading rubric and provide feedback.

- ► Grades are determined for each student by taking the average score given by their peers.
- ► The teacher performs an evaluation and final grade that may or may not be incorporated into the average grades.

Students' familiarity with the criteria tends to improve the efficiency of peer review, so students should be involved in discussing the criteria used. In this sense, it is recommended that students participate in the preparation of the evaluation rubric.

How to assess and evaluate it?

After any peer review process, the teacher and students should reflect on the learning that occurred by giving and receiving peer feedback. This can be done during the synchronous class or through a forum. Some tools, such as Eduflow, incorporate the reflection process within the scoring system, so that in order to obtain a grade it is necessary to reflect on the evaluation process.

Examples of implementation

- ► Strategies for student peer assessment (NSW Government, 2022)

- ► Peer assessment (Iowa State University, 2023)

Tools

In Moodle

- ► ToolWorkshop

Outside Moodle

- ► Eduflow!!
- ► FlipGrid
- ► Corubrics
- ► Peergrade

Resource

Peer Learning and Cooperative Learning: Psychopedagogical Principles and Teaching Methods (Sánchez, 2015).

MOODLE

Moodle is a platform for online learning, designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalised learning environments where we can create online courses, add assignments, and keep an eye on students' progress.

In Moodle, learners can access different types of learning materials such as presentations, videos, quiz exercises and games, and be engaged in regular live classes. It supports a range of media to present or link to learning materials, support the learners and to assess their learning.

Teachers can embed and have access to course **materials**, create **live classes**, communicate with students on a **live chat**, exercise **grades** and **final tests**, and **modulate** the course structure.

Elements of **gaming** can be included in Moodle. External **H5P** tool increases interactivity and joy in learning as students tend to get better grades when they study by solving and memorise interactive exercises. H5P enables exercises such as Drag and Drop, Crosswords, Flashcards, Image choice, interactive books, etc.
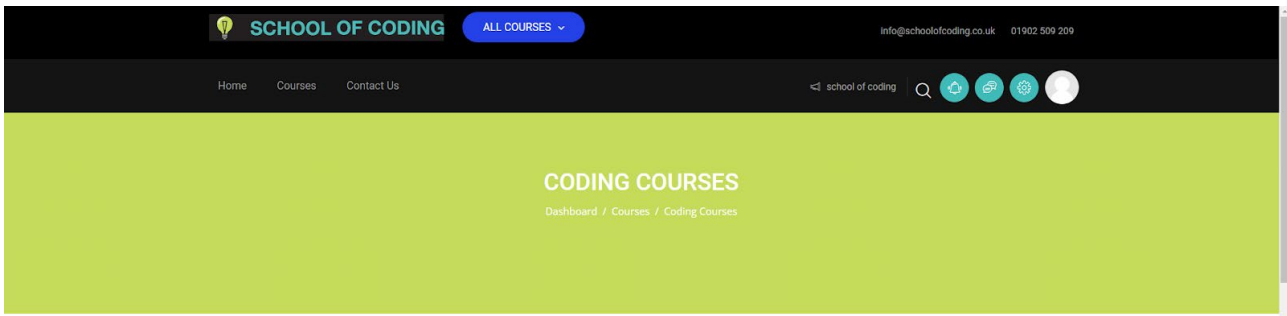
Courses category layout in Moodle
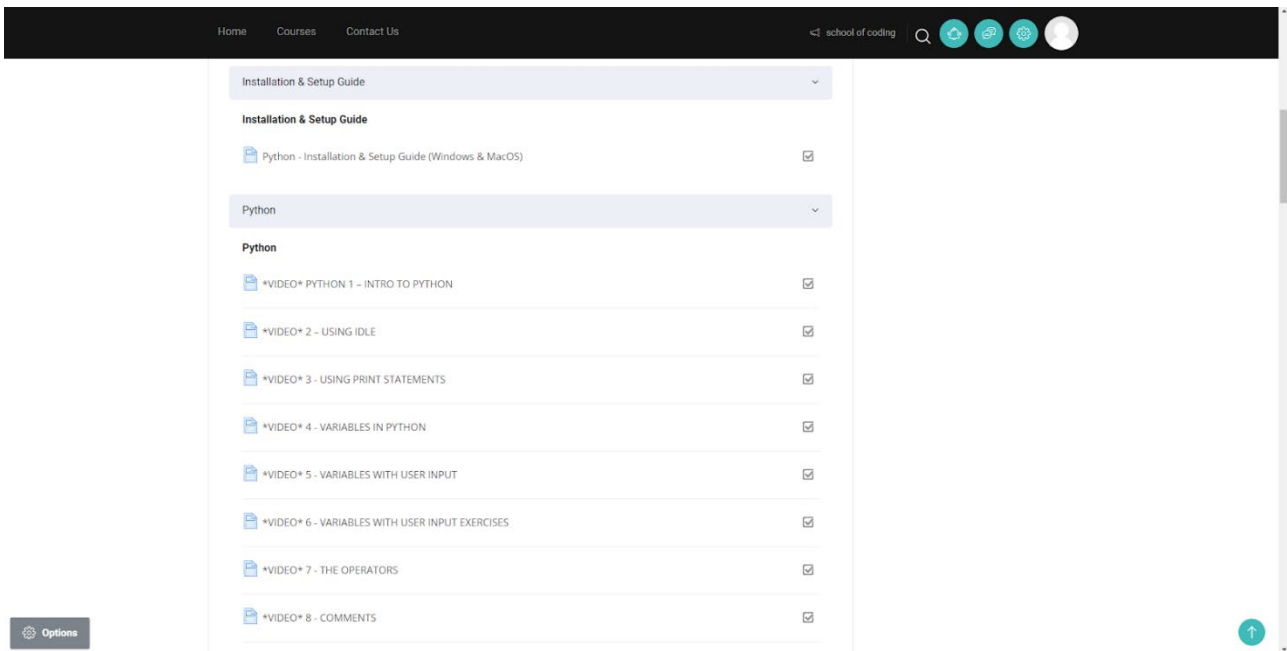
Layout inside a Moodle course

Layout display when accessing a material inside a course

Moodle tools

Below you can find an introduction to some of the most common tools that can be used in Moodle:

- ► Video conferencing
- ► Page
- ► Book
- ► Presentation slides
- ► H5P
- ► Quiz
- ► Chat
- ► Certificate

Video conferencing

Zoom and **BigBlueButton** are the tools that can be used for video conferencing and Live Online Classes through Moodle, as it enables instructors to effectively engage remote students anywhere in the world.

These video conferencing tools support real-time sharing of slides (including whiteboard), audio, video, chat, emojis, breakout rooms, and screen sharing. They also record all content for later playback.
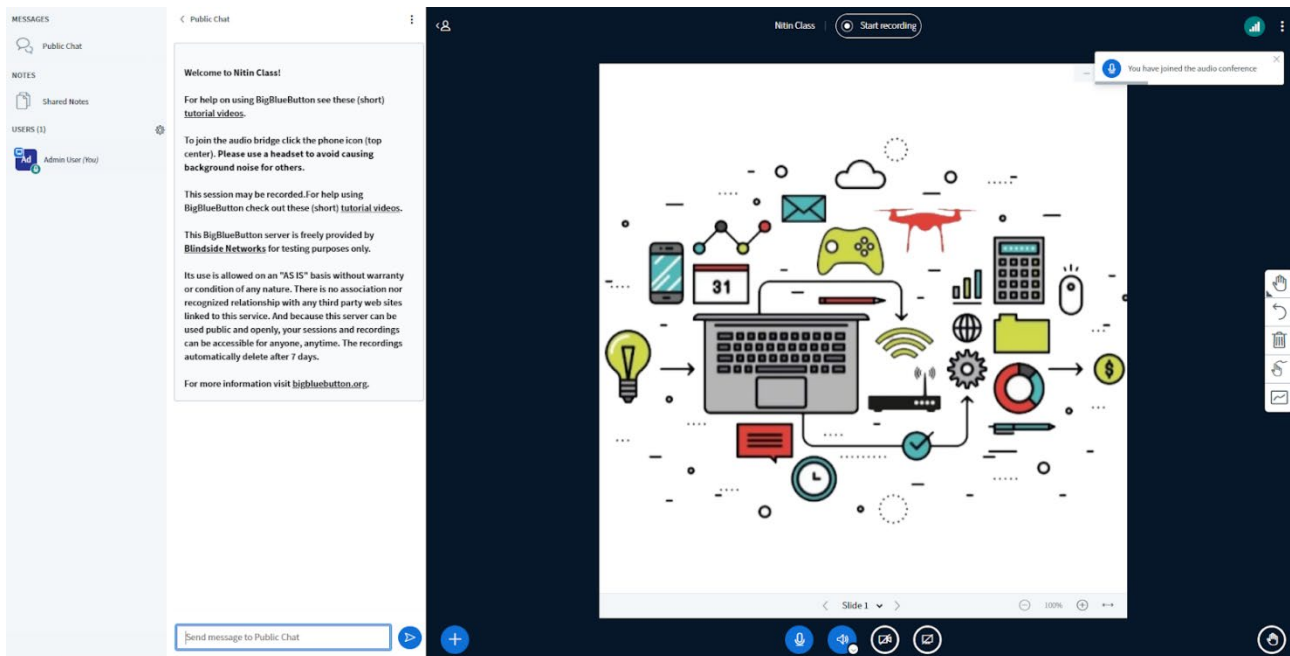
BigBlueButton video conferencing software in Moodle
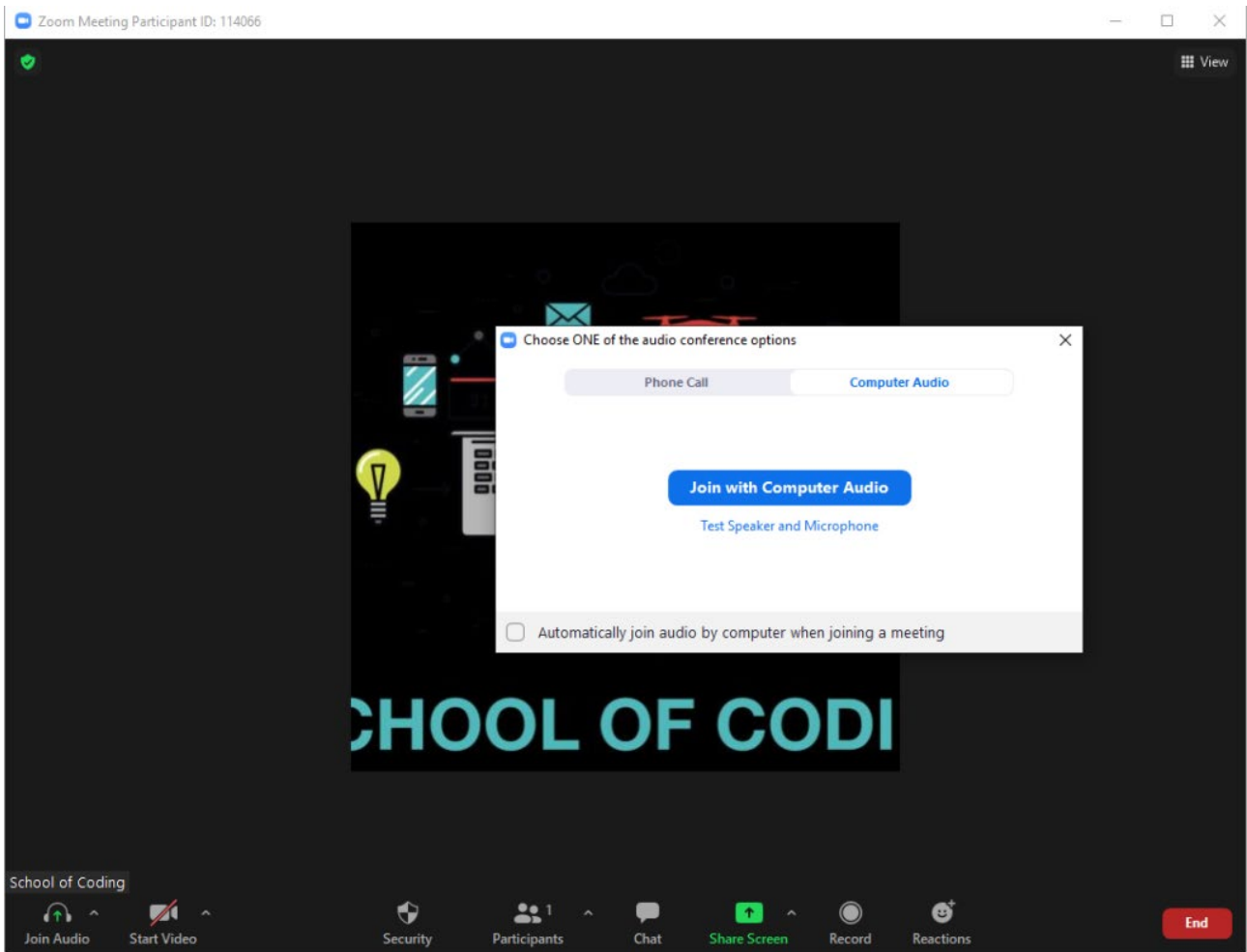
Zoom online conference tool

Page

Page tool is used to create and display content created by the teacher. It allows displaying different kinds of content such as plain text, images, audio, video, embedded code, or a combination of all these.
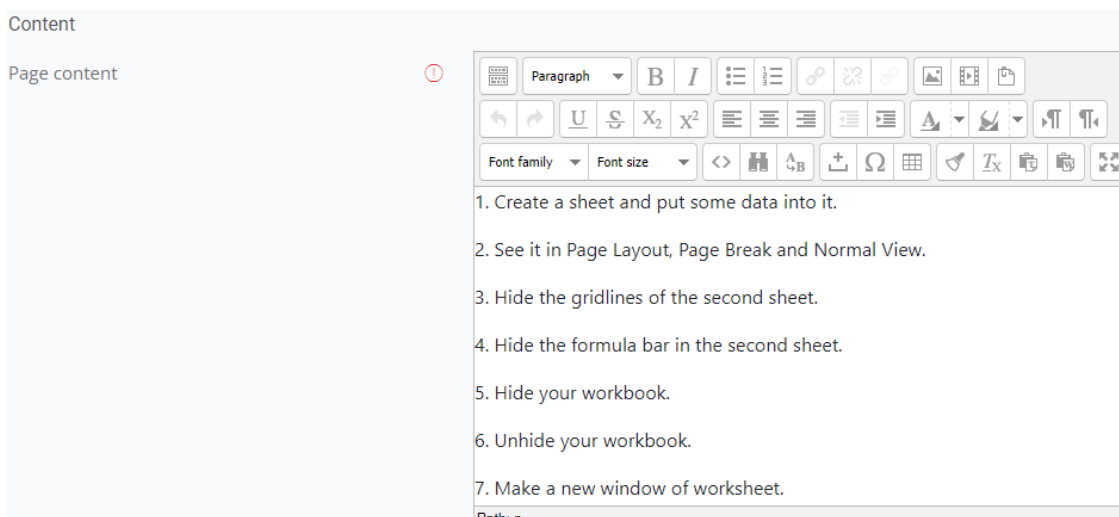
Creating a page in Moodle

Book

The Moodle book tool can be used to divide topics of a subject into a single place and connect them with a table of contents. Students can use this to follow and study a topic without losing their place, while teachers can quickly update and add new chapters as needed. Books can use a variety of content types, such as text, images and more.

Example of a book structure in Moodle

Presentation slides

Microsoft PowerPoint and Google Slides and YouTube videos can be embedded on the Page tool to display presentations and video lessons. It is a good tool to use because in case one needs to make a change inside a presentation or in a video, the change is automatically applied in every part of the platform.

Google slide embed

Youtube embed

H5P

H5P is very effective in student motivation and engagement since it opens a whole new world into student interaction. It is used to create interactive exercises for students to play and learn with. Probably it is the best tool on Moodle for this kind of purpose. The most used exercises are Drag and Drop, Crosswords, Drag the Words, Flashcards, Image Pair, and Image Choice.

Example on how to create a learning activity with H5P tool in Moodle

Examples of Drag the Words exercise done with H5

Quiz

Quiz system is an interactive and fun way to review the content and get instant feedback. Moodle quizzes are good for mid-course or final tests. Teachers can visualise the grades in a table, a graph view or download them in an excel file.

An exercise elaborated with Moodle Quiz tool

Chat

The Moodle chat room can be used by teachers to set points of discussion for students or to answer any questions students have quickly and directly in real-time. Students can also use them to help each other with certain topics. Chat sessions can be saved and have the chat logs distributed to students later as necessary.
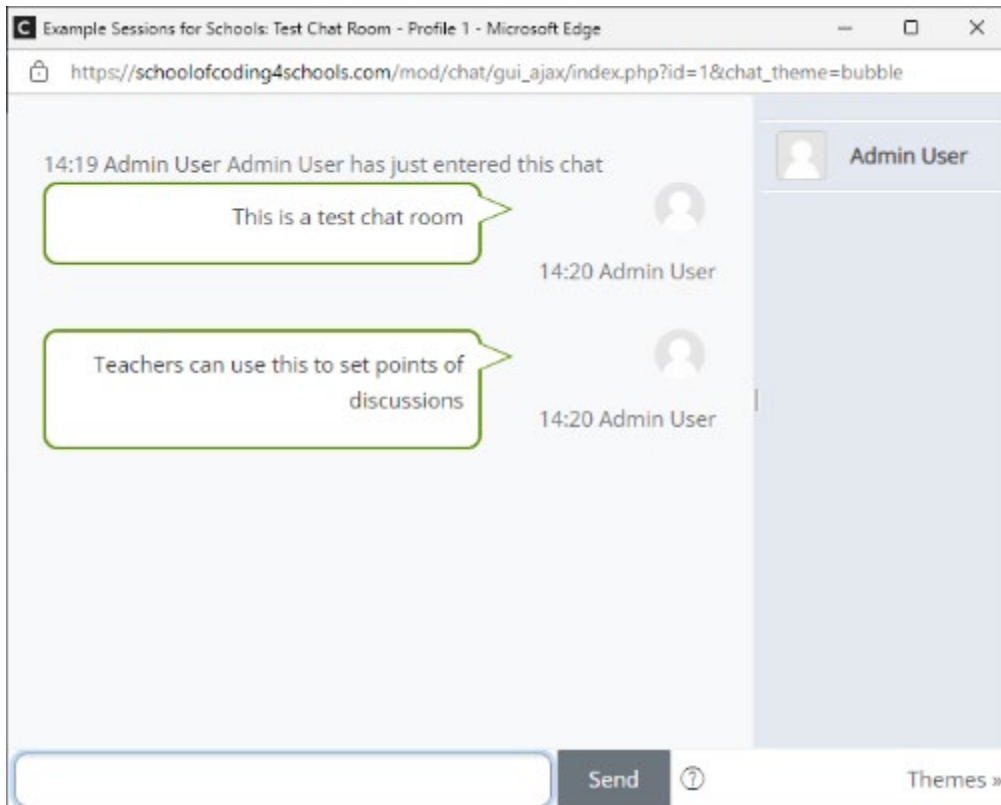
Chat tool in Moodle

Certificate

Certificates are presented to a student who has completed a course or topic and serves as an official, permanent record of their achievements. A custom certificate can be easily created by teachers through a template and adjusted as needed to include a student's name and the current course. These can help to motivate students. Students will be able to download or print it.

Example of Moodle Certificate

How-to at Moodle.org:

- ▶ Moodle page: https://docs.moodle.org/400/en/Page_resource
- ▶ Moodle book: https://docs.moodle.org/400/en/Book_resource
- ▶ Quiz: https://docs.moodle.org/400/en/Book_resource
- ▶ Chat: https://docs.moodle.org/400/en/Chat_activity
- ▶ H5P: https://docs.moodle.org/400/en/H5P
- ▶ Embedding media: https://docs.moodle.org/400/en/Media_embedding

Support & motivate

Teacher has a key role in building a learning community as well as supporting and motivating the students.

SUPPORT AND GUIDANCE

Why do students need support in VLE?

Student support is the system of services provided by a higher education institution, which fulfils students' emotional, academic and social needs and is a precognition for increasing student's individual welfare and academic success (Tamulienė, 2014; Sajienė & Tamulienė, 2012). Student support is an integral component of curriculum implemented at higher education institutions.

While online learning is a different style of learning in comparison with traditional learning the students still need the same support services. The only difference between student support in traditional and online learning is that support must be provided in a different way.
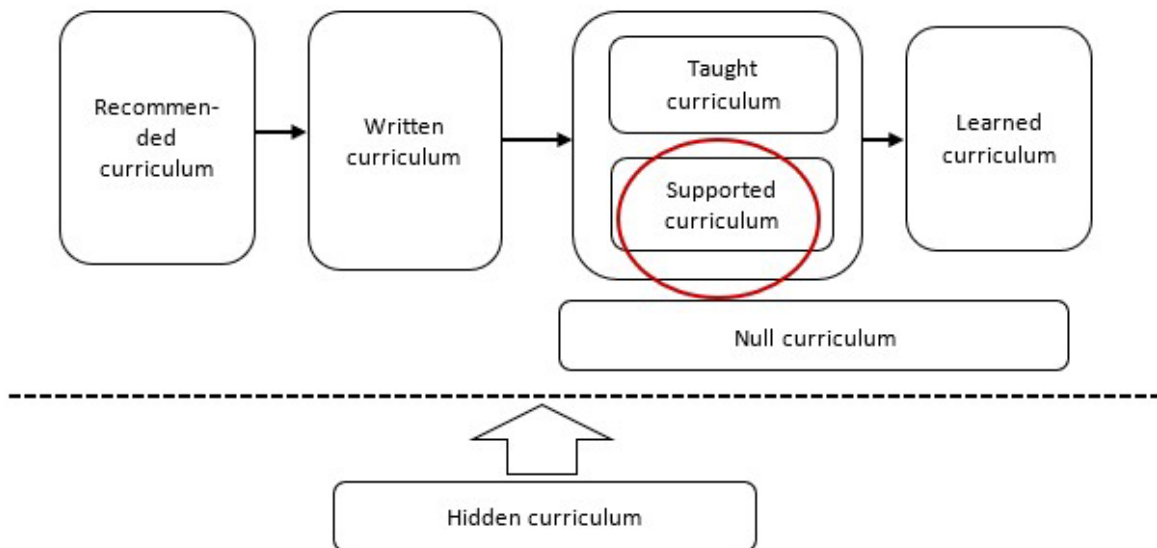
Interaction among different types of curricula when developing student-centred studies (adapted from Glatthorn et al., 2009)

Learning in virtual environment causes a lot of changes while implementing curriculum. During online learning, the number of teacher-student contact hours decreases, greater attention is given to independent student learning, students lose an opportunity to receive informal emotional support from teachers and peers, and the feeling of belonging to the community of a higher education institution is decreasing. As a result, online learning without appropriate student support can lead to increased drop-out rates, decreased students' motivation and learning achievements.

Traditionally, there are two different types of student support: **academic and non-academic.**
Academic student support involves services related to fulfilling student needs that that are directly related to study process (career designing, academic student information and counselling, student admission and integration into studies, support for international students, library services, foreign language centre services, distance study centre services). **Non-academic** student support is oriented towards the fulfilment of emotional and social student needs that are not directly related to the study process (psychological counselling, services that promote a sense of community, health services, financial support and legal counselling, support for students with disability) (Tamulienė, 2014).
While traditional student support services are provided at institutional level, during online learning, the support is mainly provided at curriculum level. This support can be provided through three interactions: **teacher-student, peer to peer and student-administrative staff** (read more in the section *"How can I support and guide my students in VLE?"*). There are different support methods for every defined interaction (see figure below).

Students who are learning in VLE
need more support to compare with
student in traditional classrooms.
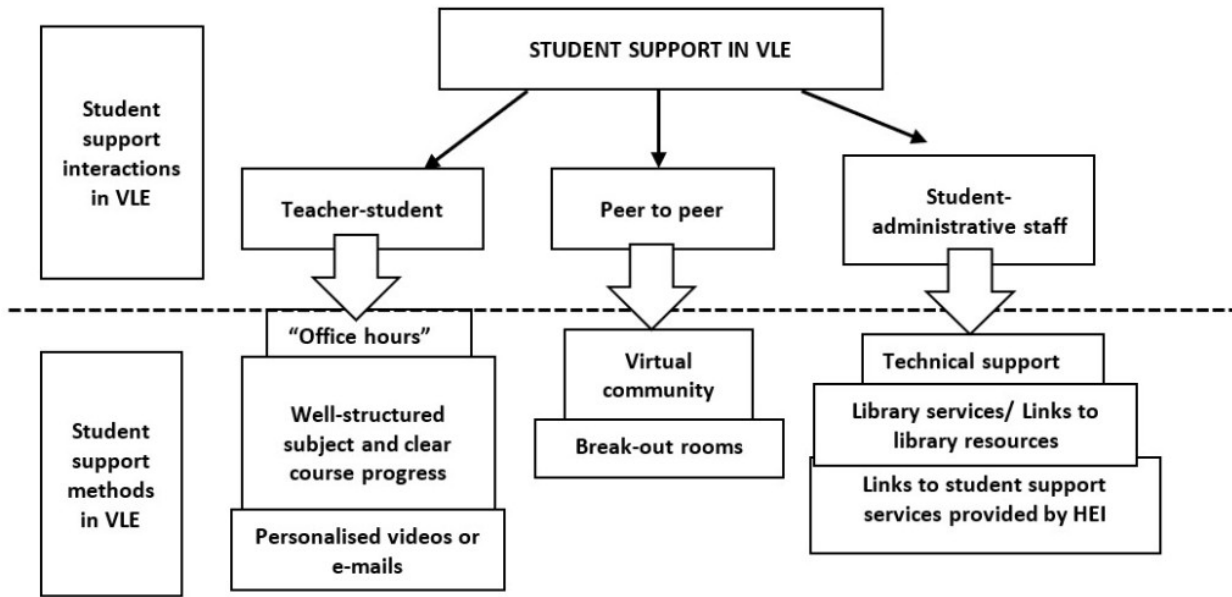
Student support methods and interactions in VLE

What type of students need more support?

The analysis of different resources shows that students with certain characteristic tend to need more support (Tamulienė, 2014) during online learning:
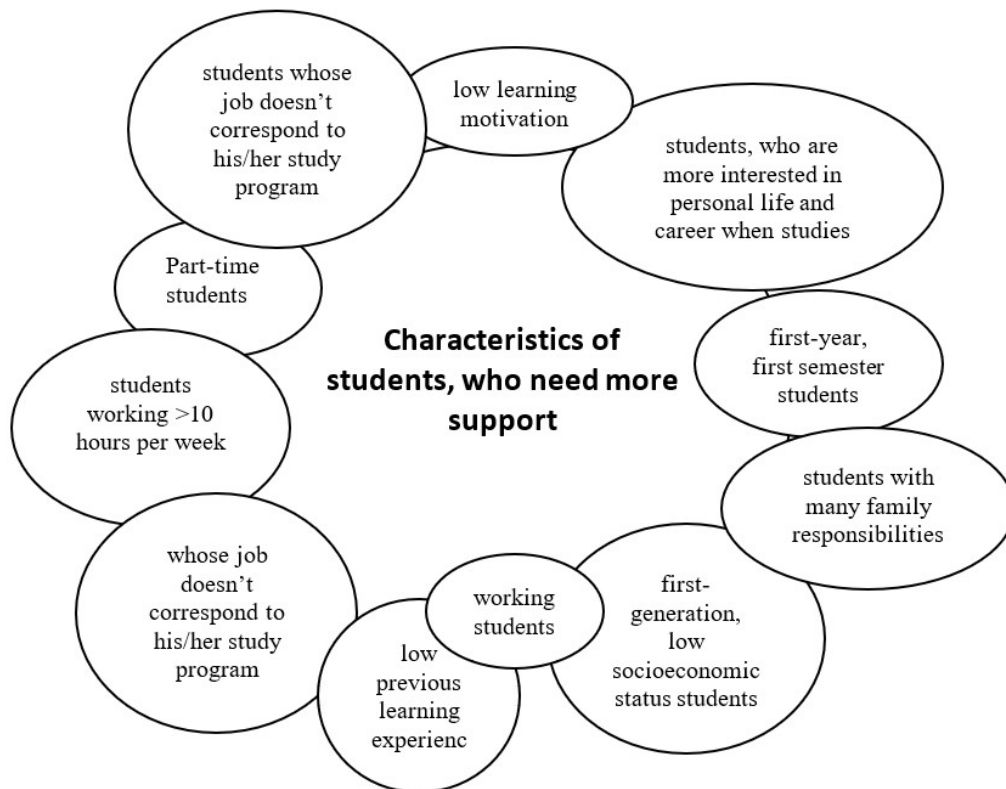
Characteristics of students, who tend to need more support in VLE

Key factors, that determine student support needs:

► *student's age.* It is noticed that students who are **non-traditional age** (start their studies at higher education institution after a longer break after finishing secondary school) need more support to compare with students who start their study at HEI directly after finishing secondary school. Non-traditional age students need more personalised attention and technical support from the lecturer in VLE.

► *family socioeconomic status.* Students who come from **first-generation**, **low-socioeconomic** status families need more support. Also, students who have more **family responsibilities** (have children, live together with partner/are married) need more personalised support during online learning. Having a clear structure of the subject and knowing about the progress of the course is important for these students, because they need to plan learning activities in advance.

► *previous learning experience.* Students who have more previous learning experience, particularly in online learning, need less support compared with students who seek their first qualification at HEI and have no experience in online learning.

► *study form.* **Part-time** students belong to the risk group of students who need additional support. It is noticed that part-time students have lower belonging to study groups and HEI feeling, have less knowledge about the organisational processes of HEI, tend to skip online lectures and meetings more often. Because of this reason it is important to motivate part-time students to get involved in virtual communities, activities in break out rooms and send personalised videos or e-mails because their attendance during the course is low.

► *year of studies.* **First year students** who are in their **first study semester** need the most support. The lecturer at the beginning of the course should give them not just the information connected with the course, but also the information about student support services provided by HEI and technical support in VLE.

► *student's responsibilities in the labour market.* **Working students** need more support during online learning. It is noticed that students, whose **job doesn't correspond to his/her study programme** and **work more than 10 hours per week** tend to terminate their studies more often. For these students it is important to be informed about the structure of the course and to know the progress of the course. A lot of personalised attention from the teacher is needed (personalised videos or e-mails). "Office hours" can also be very useful support method because working students often do not attend online lectures.

► *student's learning aim*. According to the learning aim, students can be divided into three groups: 1) students who are seeking for qualification in particular area; 2) students who are studying just because they want to be students; 3) "drop-in" students. The second and third group of students traditionally **have low learning motivation** and need additional support not just at curriculum implementation level but also from institutional level (e.g., career counselling services). The lecturer for these groups of students should introduce student support services provided at HEI.

► *student's integration into HEI.* Collaborative (e.g., students, who are taking part in different student unions, groups, initiatives, etc.) and academic (students who have high learning achievement) type of students tend to have high integration to HEI level and often need less support from the teacher. While non-conformist types of students (**students, who are more interested in personal life and career than studies**) usually need more support from the teacher.

CHECKLIST

when planning support in VLE

- ☐ are there any students with disabilities?

- ☐ are there any non-traditional aged students?

- ☐ are there any working students?

- ☐ are there any first-year students?

- ☐ are there any nudge students, who attendance at learning activities is low?

- ☐ are there any part-time students?

- ☐ are there any students, who have many family responsibilities?

- ☐ are there any students with low learning motivation?

How can I support and guide my student in VLE?

Online office hours

> *Online office hour is a weekly meeting time, during which the teacher can be found in an online meeting room.*

Online office hours is an effective student support method which allows teachers and students to communicate in real time using tools, such as Zoom, Google Meet, Microsoft Teams or other. It is suggested to create an online registration form for students who are planning to attend the consultation.

When to use?

It is useful for planning remote consultations, workshops or for various types of learning difficulties/problems. Students should be provided with a pre-planned timetable indicating the teacher's availability.

Steps to be taken

1. Make your own schedule
2. Publish it in a VLE
3. Open registration for online hours
4. Ensure the information is accessible

Possible tools (in Moodle / outside Moodle)

► **Moodle**: Scheduler

► **Outside Moodle:** Google calendar

Example of an online office hour
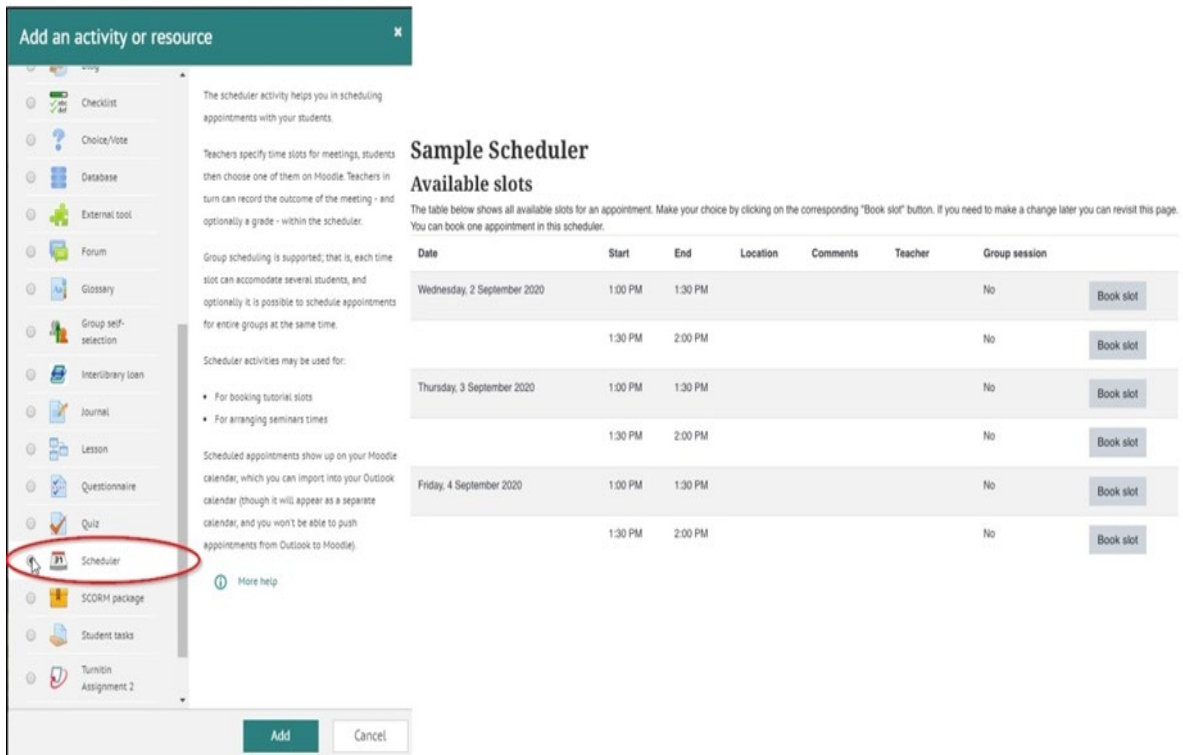
Moodle Schedular

On the left side of this screenshot, there is a list of Moodle activities and resources where the Scheduler tool is available. On the right side of the screenshot, the Scheduler tool is opened and there is a list of available slots to which students can register for consultation (Book Slot).
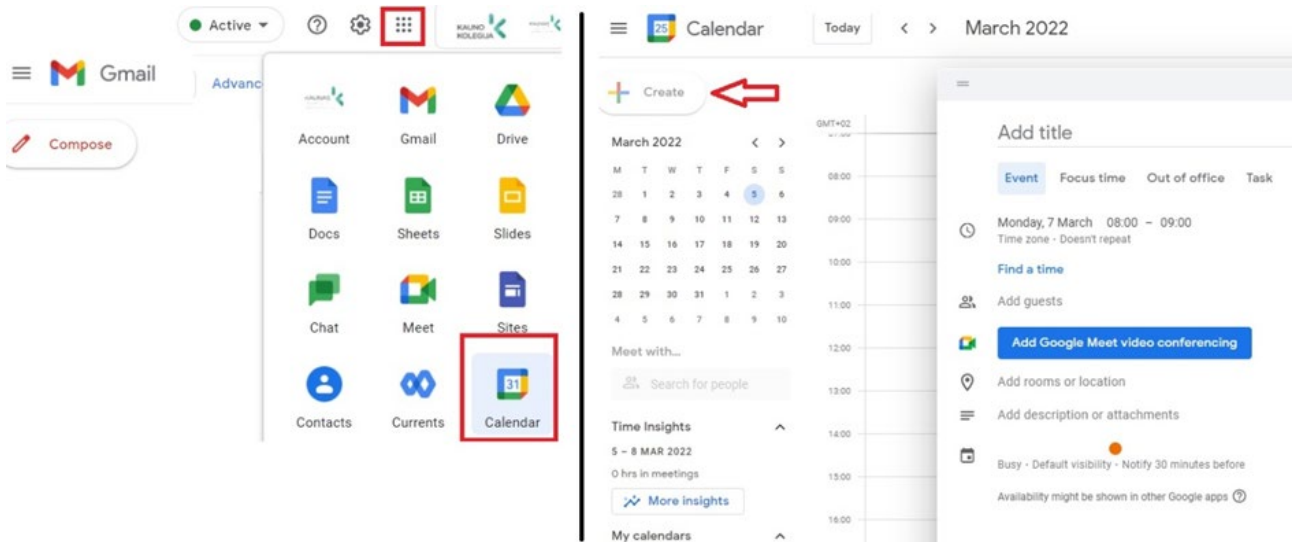
Google Calendar

On the left side of this screenshot there is additional *Calendar* app in *Gmail* account. On the right, it shows how to create a new online event in the opened calendar.

Personalised videos or e-mails

Personalised video / email is a method where teacher *makes comments on student work or answers to the questions as video recordings that are then sent personally by email.*

It is noted that in online learning, personalised video is a more effective support method than emails. They can help to build a more realistic contact with a student, which is important as learning in virtual environment is often missing face-to-face communication.

When to use?

The method is suitable when specific students are experiencing learning difficulties or other problems. Using personalised videos or e-mails/messages, the teacher can provide additional detailed and visual solutions or give advice to a specific problem.

Steps to be taken:

1. Evaluate which tool(s) would be the most effective in helping the student to solve their problem(s)
2. Apply the selected tool(s)
3. Inform the students about the chosen communication channels and provide possible solution(s) to the problem(s)

Possible tools

▶ **In Moodle:** H5P, Moodle messaging/notification

▶ **Outside Moodle**: it is appropriate to use all the common personal communication tools: Gmail, Google Groups, Gmail Spaces
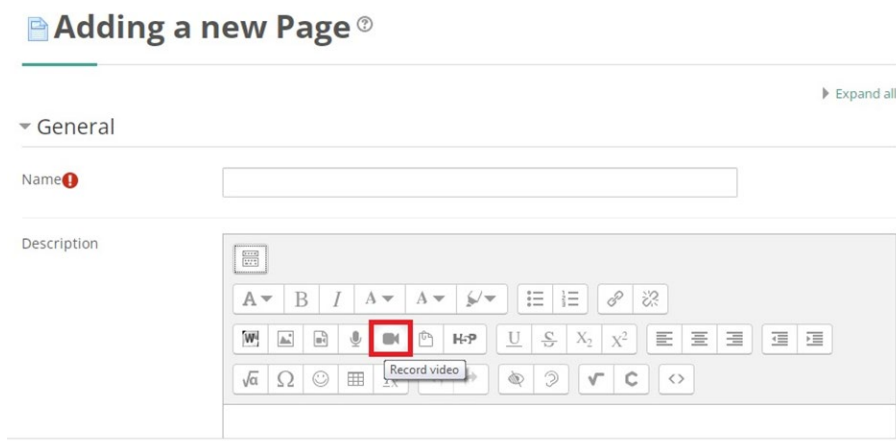
Moodle video recording example

The above screenshot shows a view of the editor mode of the *Moodle Page* feature. By selecting the *Record Video* function in the toolbar, we can record the computer screen including the camera view.
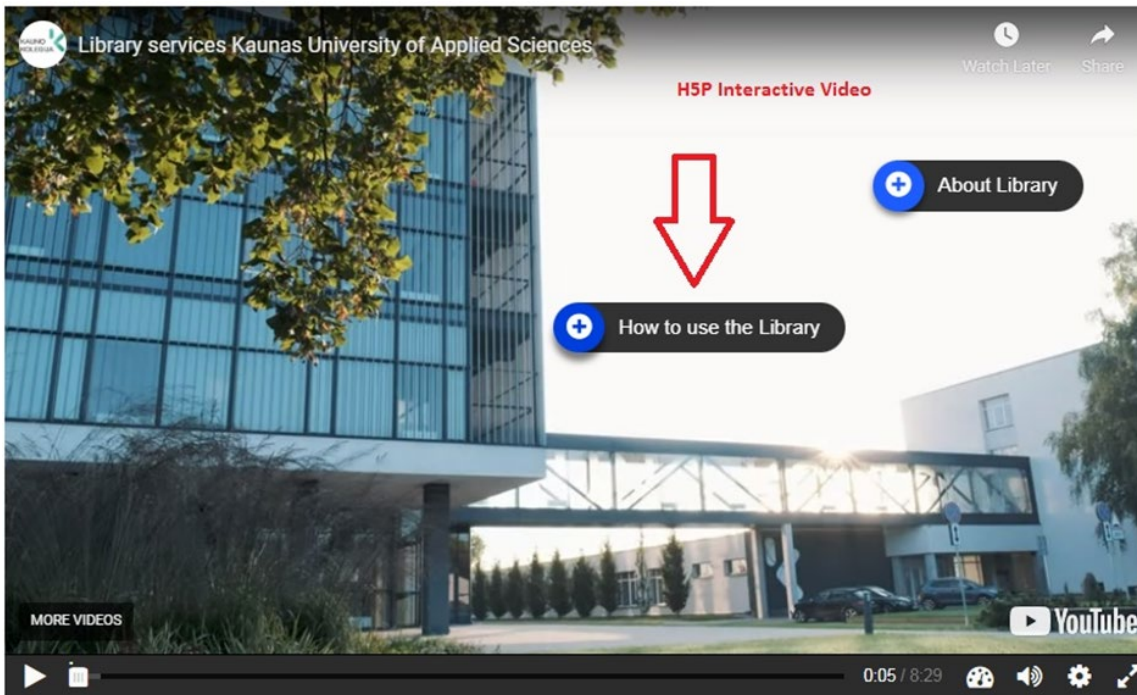
H5P Interactive Video Example

This screenshot shows an interactive video produced by the *H5P* tool. Interactive information blocks are embedded at specific points in the video to provide additional information in text, visual or audio formats. When a point in the video is reached where an additional information block is embedded, the video is automatically paused, and viewers can click on the visible interactive icons to access the additional material.

Well-structured subject and clear course progress

Learning in a virtual environment requires more independent learning from the student. The more hour for independent learning is given while implementing curriculum, the less safe the student feels.

*One of student support methods, which gives an emotional safety for the student in VLE is **clear structure of the subject and progress of the course.** The dates of given topics, the deadlines, exams, midterms and etc should be clearly stated.*

When to use?

It is appropriate to create a to-do/task list for the students to work with. The teacher can monitor students' progress as they tick off each of the items on the list. Items can be indented and marked as optional. Students are presented with a simple bar showing how far they have progressed through the required/optional items and can add their own personal tasks to the list.

Steps to be taken:

1. Plan course activities, reports and consultations.
2. Identify assessment criteria.
3. Select appropriate tools for the virtual learning environment to present information to students.
4. Publish information in the VLE and inform the students where it can be found.

Possible tools:

► **In Moodle:** Checklist tool
► **Outside Moodle:** Google Tasks, Todoist

Moodle Checklist example

On the left side of this screenshot, there is a list of *Moodle* activities and resources with the *Checklist* tool available on it. On the right side, there is the activated *Checklist* tool, which contains a list of activities for students to complete. The compact list shows the activities that have already been completed with the teacher's marks and the uncompleted activities.

Break-out rooms

It is noticed that during online lectures students tend to be less active, rarely answer to the teacher's questions and do not take part in an online discussion.

Breaking up students into smaller groups where they can discuss, and answer questions is an effective way to increase students' activity.

Break out rooms can be used for online lectures, as well as for independent work tasks that are dedicated for student groups.

When to use?

It is suitable for practical or group work, where students need to be divided into small groups for specific tasks/activities, and where virtual rooms for these groups need to be managed simultaneously. It is also a very useful method to develop students' belonging to community feeling when working online. It is also appropriate to use this method in cases where individual students find it much more convenient and efficient to work in smaller groups than in a single shared space.

Steps to be taken:

1. Choose the right tools.
2. Familiarise yourself with the technical instructions for the Breakout rooms.
3. Have a clear plan for forming groups.

Possible tools:

► **Outside Moodle**: BigBlueButton, Zoom, Google Meet, Teams
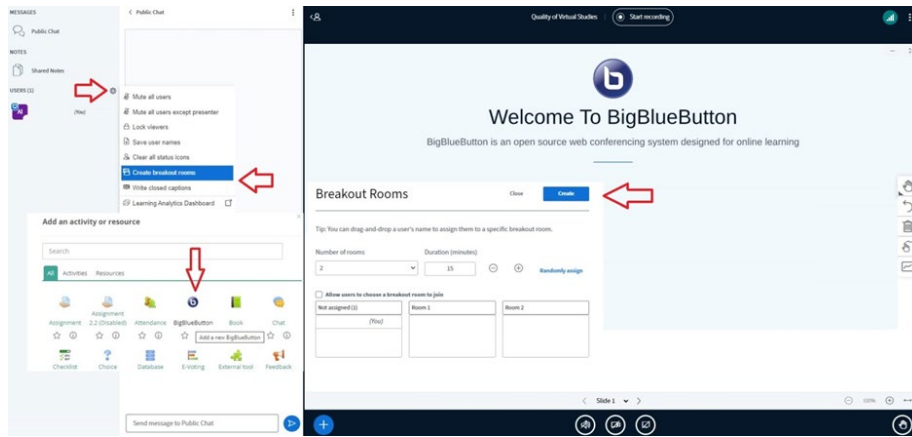
BigBlueButton example

In the bottom left side of the screenshot, there is a list of *Moodle* activities and resources where the *BigBlueButton* tool is. On the top left and right, it is shown how to activate the *Breakout Rooms* feature in the tool for working in smaller groups.
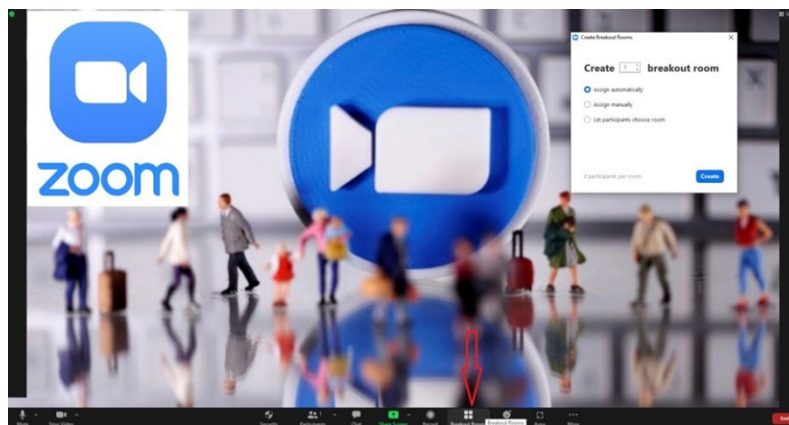
Zoom example

This screenshot shows the *Zoom* tool and instructions on how to activate the *Breakout Rooms* feature for working in smaller groups.
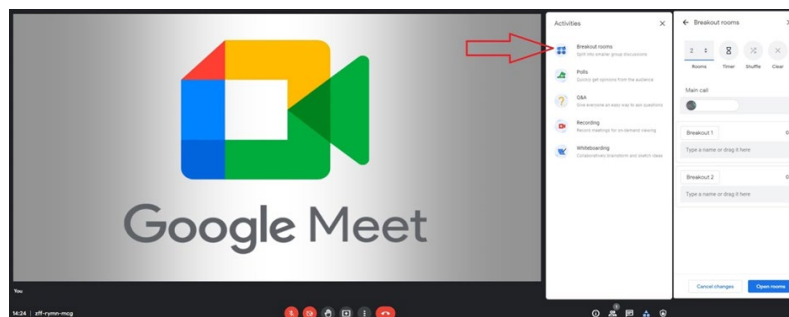
Google Meet example

The above screenshot shows the *Google Meet* tool and on the right side there are instructions on how to activate the *Breakout Rooms* feature for working in smaller groups.

Virtual community

"Virtual community" is a social network of the students attending the same course or group in which they can discuss relevant topics non-formally.

The creation of a virtual community is one of the student support methods, which helps to promote a sense of community. It is noticed that online learning decreases the feeling of being a member of a higher education institution which can cause increased drop-out rates, decreased student motivation for learning and students' achievements.

When to use?

It is appropriate to use it for collective discussion of various learning issues, question-and-answer sessions, sharing of tips and experiences, discussions both with the course leader (lecturer) and among the course participants in order to develop a sense of community. It should be noted that the use of less formal tools (such as WhatsApp, Messenger etc.) is more effective while creating a virtual community to compare with more formal tools (discussion forum in Moodle).

Steps to be taken:

1. Select appropriate and effective social communication tools and define the principles of ethical communication.
2. To inform students about the possibilities (tools) of virtual community communication.
3. Administer and activate the virtual community for purposeful communication.

Possible tools:

► **In Moodle:** Forum and chat tools

► **Outside Moodle:** Google Groups, Google Classroom, WhatsApp

Discussion forum example
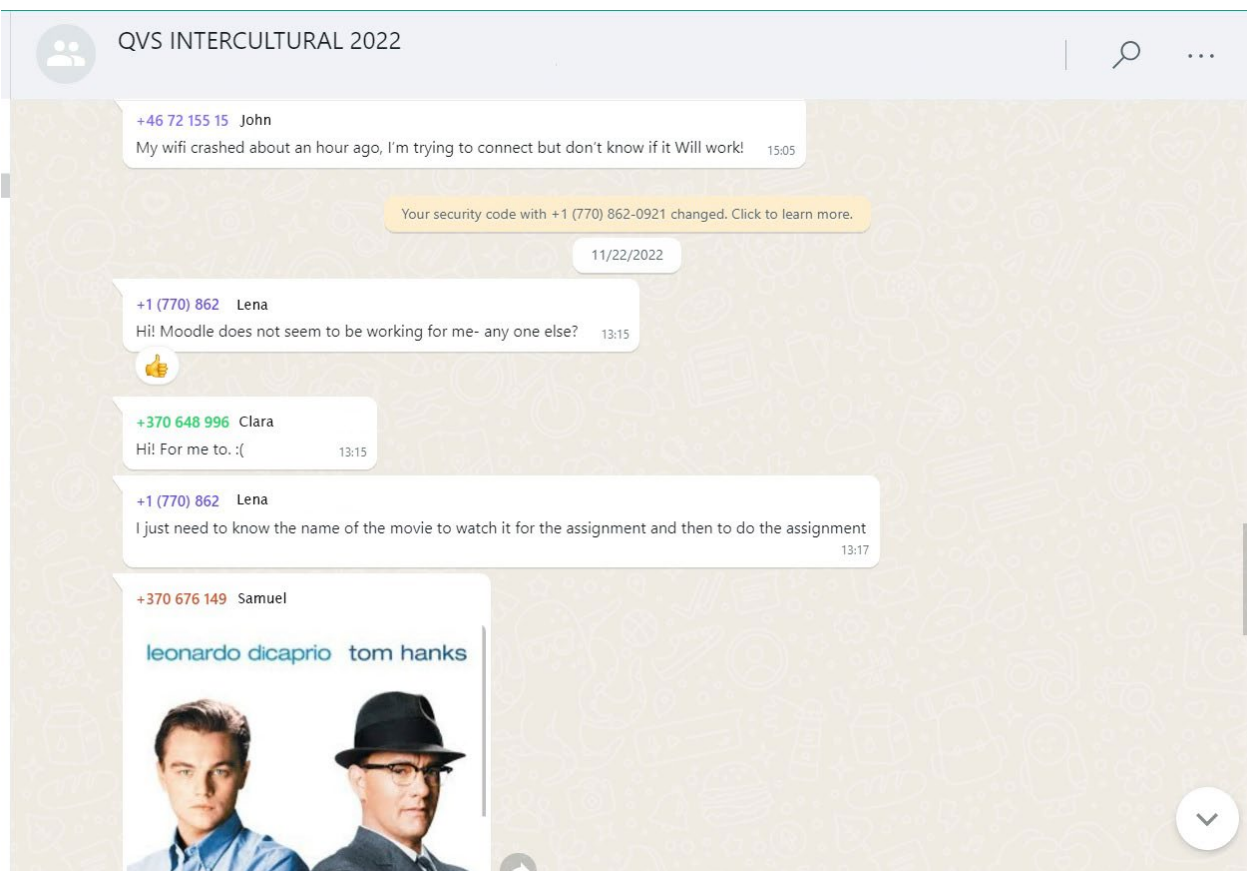
Example of creating a virtual community in WhatsApp

Links to support services provided by HEI

During online learning, students need the same support provided by HEI as during traditional learning: career designing, psychological counselling, health services, financial support and legal counselling, etc.

Although a teacher who is implementing an online learning course can't provide such kind of support, in virtual learning environment he/she should place the links to student support services provided by HEI.

When to use?

It is suitable to use when students face problems or have various questions regarding study difficulties, financial problems, counselling, benefits, etc., with the help from the study support staff.

Steps to be taken:

1. Select appropriate and effective information solutions and assess the technical capabilities of the Moodle virtual learning environment.
2. Create active links in a prominent place in the virtual courses, directing students to other help and advice sites/spaces.
3. Inform students about the accesses created.

Possible tools:

In Moodle:

► an active reference tool *URL* provides relevant information on how, when and where to consult the responsible staff,
► relevant information can also be provided by embedding Google Slide on to the Page,
► greater visualisation and interactivity can be achieved by using the H5P module's Slider function, which would allow for multiple scrolling banners of information and active links, or by using the Accordion tool of the same H5P module for a convenient presentation of information. In addition to the above, icons (images) with active links could be used to direct to specific help areas.

Outside Moodle: iSpring Suite, PowerPoint embed

During online learning, students face many technical issues. To make the process smoother the teacher in VLE should put the links to technical support information provided by HEI.

When to use?

It is used when the students encounter various technical problems (connection problems, hardware compatibility, etc.) that require qualified IT support. In such cases, it is useful to provide information on how to contact the IT consultants in a short and prominent place in the course(s).

Steps to be taken:

1. Select appropriate and effective information solutions and assess the technical capabilities of the Moodle VLE
2. Create active links in a prominent place in the virtual courses, directing students to other help and advice sites/spaces
3. Inform the students

Possible tools:

In Moodle:

► an active reference tool URL provides relevant information on how, when and where to consult the responsible staff,
► relevant information and facts can also be provided in *Google Slide* embed format using the *Page* tool
► greater visualisation and interactivity can be achieved by using the *H5P* module's *Slider* function, which would allow for multiple scrolling banners of information and active links, or by using the Accordion tool of the same H5P module for a convenient presentation of information. In addition to the above, icons (images) with active links could be used to direct to specific help areas.

Outside Moodle:

► iSpring Suite, PowerPoint embed.

Links to library resources

Administrative support

Learning in virtual environment can often make students feel lost among the huge amount of material and information. One of the most important academic supports for online learning is Library services.

The teacher should select the most relevant library recourses (e.g. links to data bases most relevant to the course) and provide the links in VLE.

When to use?

Best to use when there is a need to provide students with detailed information about the sources of information required for studying the subject. It is useful to provide the information in the format of active links, so that it can be placed directly in the virtual space of the institution's library. Therefore, the information on the availability of information sources, the virtual catalogue, ordering options and consultation with the responsible library staff can be obtained.

Steps to be taken:

1. Select appropriate and effective information solutions and assess the technical capabilities of the *Moodle* VLE
2. Create active links in a prominent place in the virtual courses, directing students to other help and advice sites/spaces.
3. Inform the students.

Possible tools:

In Moodle:
► an active reference tool *URL* provides relevant information on how, when and where to consult the responsible staff
► relevant information and facts can also be provided in *GoogleSlide* embed format using the *Page* tool
► greater visualisation and interactivity can be achieved by using the *H5P* module's *Slider* function, which would allow for multiple scrolling banners of information and active links, or by using the *Accordion* tool of the same *H5P* module for a convenient presentation of information. In addition to the above, icons (images) with active links could be used to direct to specific help areas

Outside Moodle: i*S*pring Suite, PowerPoint embed

Example of icons with active links

The above screenshot shows a possible representation of active information icons in a *Moodle* course. Students can click on the information icons provided and submit them to additional external resources.
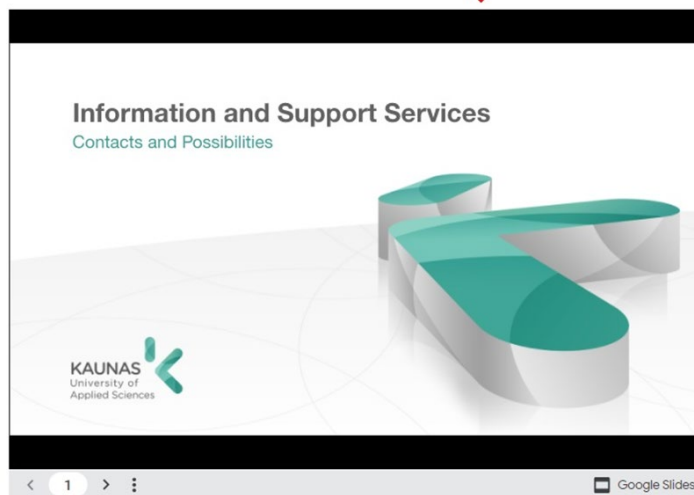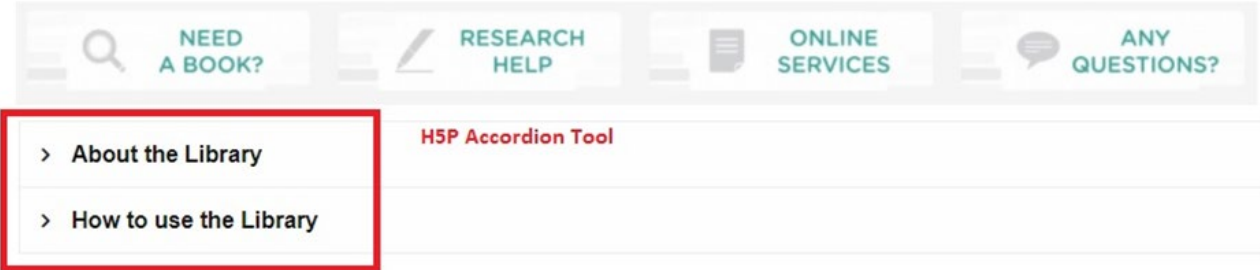
Example of embedded Google slides

The above screenshot shows how to integrate slides into a *Moodle* course environment in a visually appealing and modern way using the embed function.

Example H5P accordion

This screenshot shows a compact presentation of information in a *Moodle* course using the *Accordion* tool of the *H5P* module. Students can click on the informative text, which unfolds to reveal all the information in the section.

Resources
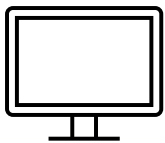
► Quality Assessment Parameters for Student Support at Higher Education Institutions (Laima & Tamulienė, 2012).
► Student support identification model at non-university higher education studies (Tamulienė Rasa, 2014)

RAPPORT AND COMMUNITY

Building relationships is an important component to a positive classroom climate. This is not only possible in virtual scenarios, but fundamental to minimise the physical distance. Interactions and connections must be made between teachers and students, and among students and group of students, acting as communities or treating the whole class as a community.

How to implement it

There are many tactics and methods that can be used when building rapport with your students in the virtual learning environments (VLE).

The concept of **rapport** comes from psychology and is used to refer to the technique of creating a relationship, an empathetic connection with another person, to communicate with less resistance.

Customise your lesson plans

The first action that can be taken to build an appropriate relationship with students is to develop lessons in such a way that they reflect the students' interests and even their learning profiles and styles. Listening to students (either from previous years' experiences, from questionnaires given to students, or from the analysis of student profiles/archetypes) allows lessons to be tailored and adapted to each group. This is the so-called "adaptative learning". Creating lesson plans that centre on students´ interests can engage with them more easily, allowing you to be an effective and impactful teacher.

Share something personal with your students.

Before asking students to open up to you, it is important that you are the first one to share something

personal. The more the open and meaningful you are, the more significant the relationship will be built. You, as a teacher, can:

► Share an excerpt from your resume, along with some personal anecdotes (for example, how you celebrated your graduation or when you got your PhD).
► Generate a forum where you ask students to share where they are from and comment on them with "I visited that city a few years ago with my partner" or "how good the food is in that city" or "I love the tomatoes in that area".

Ask rapport-building questions

It is important to consider students who are shyer and prefer to remain in a more observant position. This type of shy students, or those who are striving, going through some kind of personal or academic difficulty, tend to respond and interact better with chatbots than with people because they do not feel judged.

In any case, there are many ways to display this issue, from question banks that can be shared in the form of Trivia, Ice-breakers or Warm-Up activities.

Create classroom norms, student learning contracts with your students help

The teaching guide is the teaching framework, but the student learning contracts, which are co-created with the students, form the real learning frameworks in which the training itinerary takes place. In the VLE they are especially valuable because the flexibility that this environment provides (in terms of places, schedules, etc.) requires a special commitment to achieve the learning outcomes. To work with the concept of **community** (that must not be confused with collaborative & cooperate methodologies), the following issues must be ensured:

1. No more than 5 members (3 students per community is the ideal).
2. Diversity of the group (age, gender, cultural heritage, learning styles, etc.).
3. Work with the concept and methodology of support groups.
4. Establishing a learning contract and making the follow-up.

How to assess it

In the case of rapport, it is not a formative evaluation, but a diagnostic evaluation to assess learning styles and to collect (through questionnaires, tools such as Wooclap, Mentimeter, Kahoot!) the interests of the students.

In the case of communities, a very useful tool to assess their performance is the learning contracts.

Best practices

► Power of the "Profile Pic" in Online Learning (Online learning insights, 2023)

► Exploring the role of chatbots in Higher Education (EdubotsEU, 2023)

Tools

Video conferencing systems

► Zoom
► Teams
► BB Collaborate
► Google meet
► BigBlueButton

Using the chat or the survey tools of the platform.

► Chatbots-Edubots
► Voice assistants

Support Resources:

► Wooclap
► Kahoot!
► Mentimeter
► Miro/Mural
► Padlet

Personal profile

Less embarrassing than Facebook, less buttoned-up than LinkedIn.

- ☑ A public feed of your padlets
- ☑ Use it as a portfolio of your best creations
- ☑ Let your collaborators and followers know a bit more about you
- ☑ Participate in the community by following users with common interests COMING SOON
- ☑ Personalize your profile with custom wallpapers and colors COMING SOON

Search for information and inspiration

Internal search that knows what you're digging for.

- ☑ Find your padlets and padlets you've contributed to from your dashboard
- ☑ Search for padlets on specific topics
- ☑ Make your own padlets discoverable by adding searchable tags
- ☑ Start from a gallery of premade templates or remake any padlet you admire to use as your own
- ☑ Connect with other Padlet users via community features COMING SOON
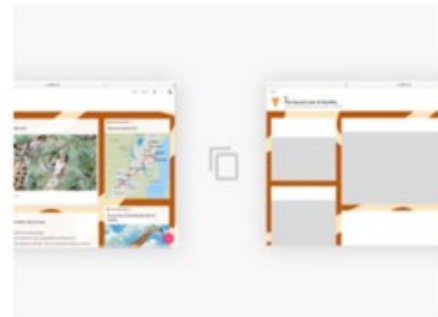
Using Padlet as a tool to create a virtual community
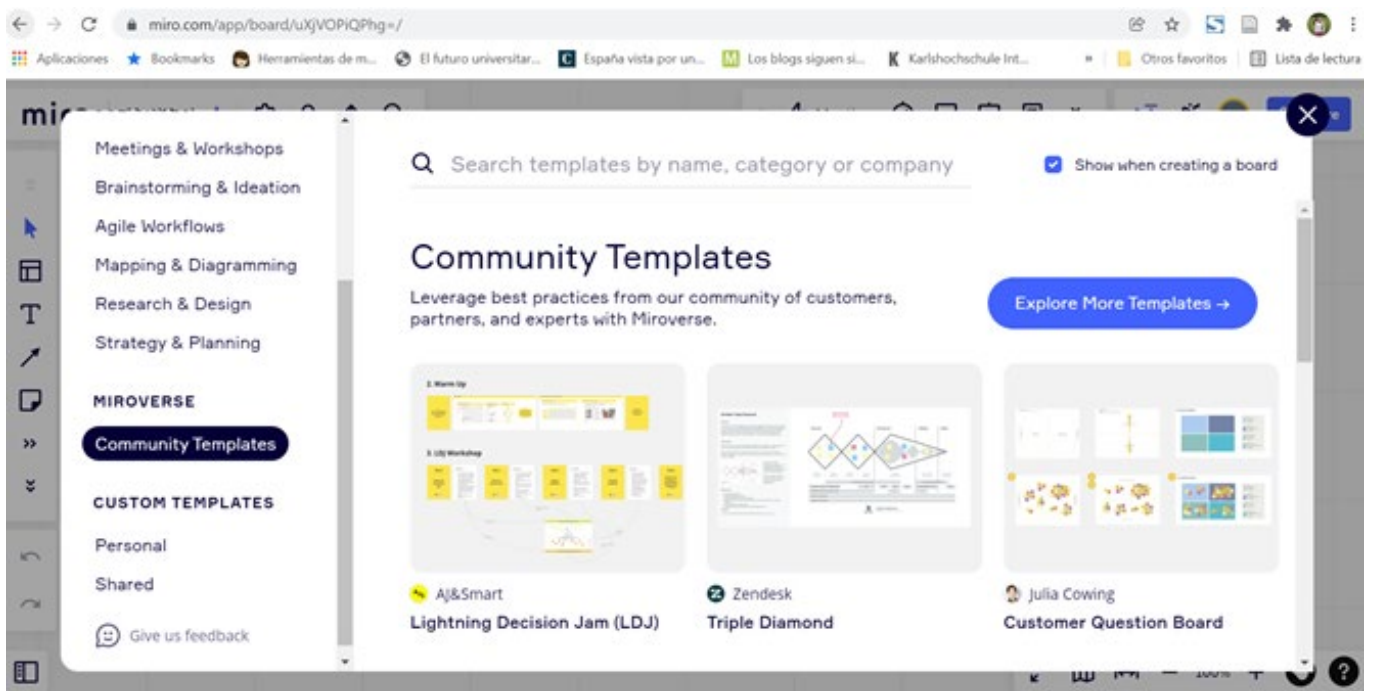
Using tools in Miro to create a virtual community

Resources

► Developing Rapport With Students In The Online Setting (Westermark, 2020)

► The Distance Learning Playbook, Grades K-12: Teaching for Engagement and Impact in Any Setting – Module 3 (Fisher, Frey & Hattie, 2020).

► 21 Free Fun IceBreakers for Online Teaching, Students & Virtual and Remote Teams (Symonds Research, 2023)

► Utilising Learning Contracts to Stimulate Student Ownership of Learning (Brewer, Sher & Williams, 2007)

► Self-Directed Learning: Learning ContractsStudying How to Apply Chatbots Technology in Higher-Education: First Results and Future Strategies (University of Waterloo, 2022)

MOTIVATION

What is student motivation?

Motivation is usually defined by psychologists as the processes involved in arousing, directing, and sustaining behaviour (Ball, 1977).

It is also defined as a process where the learner's attention becomes focused on meeting their objectives and realising towards their potential.

Why we need to motivate students

It is important for teachers to motivate students in order for them to reach their goals and their highest potential. Students who are more motivated learn faster and are able to push through the hurdles and cognitive challenges that learning requires.

Student apathy

Some students show apathy when classes only take one direction. Students start to show signs of not being totally focused or fully interested when classes only go through theoretical information during an extended period for example. Students have different forms of engagement, and with various ways of teaching, like gamification, are more fertile for students to learn and stay on track.

How to engage students with different levels of motivation

► Alter the structure of the class to avoid monotony.
► Teach through games and discussions instead of lectures only.
► Encourage students to debate and enrich the subject matter with interactive exercises, videos, posters and student projects that will create a stimulating environment.
► Create connections to working life.

The key is to make the learning content feel important. If the student believes that what he or she is learning is important, it will increase the student's motivation. Research how a subject is utilised, and share with the students, telling them that they may use it in their career, and show being used by people, it will make them think and alert the importance of it giving them some enthusiasm.

Teachers' approval and positive reinforcement is very important too. Students are more likely to be enthusiastic about learning if they feel their work is recognised and valued. Encouraging open communication and free thinking with the students make them feel important. Offering Incentives or rewards also makes learning fun, motivates students to push themselves and encourages them to work with a goal in mind.

Motivation between teachers and students

The connection we have between teachers and students at an international level is one of the students' best motivations. People can sign up for classes all over the world. This highlights the importance of an online eLearning platform. It can open the door to new opportunities, help students develop skills and archive different perspectives of learning. Children have more freedom to work at their own pace, which improves their learning experience and helps them build a better understanding with their teacher. This is also important for the teacher because it helps them structure their classes to suit the individual learning requirements of each child (Nord Anglia Education, 2021).

Student resources to access IT learning

Students have access to slide presentations, video lessons, class resources, and after each lesson students stay progressively engaged and motivated to learn by having access to multiple types of interactive exercises.

Good practices of student engagement

► Variety of teaching methods
► Letting students have different choices, and different elaboration methods.
► Gamification learning
► Making learning personal

School of Coding students learning through gamification

Regulations

This chapter looks into following regulations that need to be taken into consideration while creating a course in VLE:

- Academic ethics
- Plagiarism prevention
- Copyright
- Accessibility
- GDPR

ACADEMIC ETHICS

Ethical principles should be the basis for the behaviour of both teachers and students in everyday practice. The principles are constant and therefore provide consistent guidelines for application in any environment, including virtual ones.

Ethical issues in online education

Codes of ethics should apply to all members of an educational institution that conducts distance education, including teaching and other academic staff, external collaborators, non-teaching staff, students, volunteers, developers, contractors, agents and others associated with the institution of online education. Ethical standards represent aspirations and expectations in the e-learning process, they are designed to articulate the attitudes and behaviours of staff engaged in distance education. They also express the expected behaviour in the distance education process, where there are two key parties involved - teachers and students.

When we talk about the teaching staff, they are expected to be responsible for distance teaching. They should adapt their work to ensure the professional development of all participants involved, and there should also be mutual understanding among those involved in distance learning.

According to Mohsen (2012), in distance education, in addition to common moral principles, following should also be taken into consideration:
- ► Principle 1: Commitment to the Student;
- ► Principle 2: Commitment to the distance education system;

► Principle 3: Commitment to the Profession and Commitment as a Professional Educator, and
► Principle 4: Ethical Commitment of Instructional Designers in Distance Education system.

For a code of ethics to be considered effective, it should be designed to influence the positive behaviour of all participants of online education. Therefore, the code should be understandable, detailed and easy to apply. The key to implementing ethical standards and overcoming the shortcomings of distance education is the creation of a relationship of trust between students, teachers and the educational institution that implements distance learning.

The importance of ethical behaviour in online teaching as a topic of concern has never been more relevant, particularly at a time when many classes in higher education are online because of the pandemic.

> Five major reasons why ethical issues in online teaching are relevant include accreditation and compliance issues, the quality of the teaching and learning experience, equity in educational outcomes, student privacy concerns, and inclusivity issues.

Distance learning in pandemic conditions was a challenge for both students and teachers. The most common problems encountered by both groups were fatigue, exhaustion and technological problems. Suprabha Bakshi (2021) suggests that two basic reasons were discovered as the causes of fatigue are:

► Distancing
► Lack of resources

We address these next in addition to technological problems:

Distancing

In the conditions of the pandemic, it was necessary to adapt to the new way of virtual studying in a very short period of time. However, this experience has shown that although e-learning has its advantages, such as less time spent on transportation, following classes from anywhere, and in the case of absence, later watching the lecture recording, on the other hand, entering the virtual world carries many dangers and traps. Unconsciously, we alienate ourselves, get used to a solitary way of life without personal communication with people and gradually lose contact with the real world.

Although the advantage of online learning is that a large number of students have access to various high-quality sources of information on the Internet, the knowledge they acquire in this way is often superficial, students become lazy and do not want to search for answers and solutions to problems independently. They also completely neglect writing and note-taking, resulting in their inability to write on their own. For teachers, the biggest challenge is the motivation of students, whom they often do not see in lectures because students turn off their web-cameras (which is their right because it enters the area of privacy protection), so personal contact is completely lost. These problems also raise serious ethical questions.

Living in the virtual world, students also turn to numerous sources of information available on the Internet. They usually cannot distinguish reliable from unreliable sources, and gradually stop using physical books.

Most teachers believe that distance increases the possibility of students cheating, with or without accomplices, on online tests and exams; either independently or with someone's help. They can

correspond by email or WhatsApp messages, which the lecturers have no way of intercepting. In some cases, students can also look up answers before taking the exam and share those answers with their peers. Despite the testing programs that detect and stop the use of search engines, they can look for answers on some other electronic media. Under these circumstances, ensuring the integrity of online assessment seems almost an impossible task. However, different strategies have been developed to help with this problem.

According to some authors (Mohsen, 2012), teachers can choose from three possible approaches to minimise cheating and plagiarism in online learning: the first is the "virtues approach", which tends to support and develop a sense of honesty and responsibility in students so that they do not want to cheat. This approach can be applied to a part of students who already have a built-in sense of responsibility in their value system. The second is a preventive approach, which seeks to reduce students' opportunities to cheat. The preventive approach again provides various techniques and tools with which forms of cheating can be predicted and prevented. Finally, there is the so called "police approach", which seeks to catch and punish those who cheat.

To conclude, cases of academic dishonesty in online learning can be significantly reduced with the great commitment of teachers, who should be well aware of all the challenges and create tests and exams in such a way as to prevent cheating, from creating questions with multiple choice items which require comprehension to project-based assessments which require not only knowledge but also creativity.

Lack of resources

Motivating students to become active on the online platform, as we have already indicated, requires complex preparations and the creation of a variety of content as well as forms for lectures. During online classes, a large number of students do not want to respond to the discussion or participate actively. There are several reasons for these phenomena: sometimes students are tired or the lecture is monotonous, especially if they have online classes for a large part of the day. Then, if the students have not had the opportunity to meet in person, there is no connection between them, nor can close friendships develop in the virtual environment. Therefore, there may be a feeling of discomfort and even tension if the teacher fails in some way, reaching for means that encourage interactivity, to create a good atmosphere for learning.

There are two key approaches to help teachers overcome feelings of alienation and create a comfortable virtual learning environment - empathy and planning a well- structured lecture.

> A. **Empathy and psycho-social support**
> Teachers need to build trust with their students, first listening to their problems in the virtual environment, worries and expectations and also, being open to communication, responding quickly to student inquiries via email, chat, or other media.

> B. **Well-structured lectures** In order to overcome unpleasant situations and monotony, teachers should plan and structure their lectures well, using many online tools available in the virtual environment (video, quizzes, online games, interactive collaborative learning of small groups, etc.), so that students are willing to participate actively. Furthermore, it is necessary to accompany the theory with examples of good practice so that students can understand the material more easily and see the added value of the course.

Technological problems

Technological problems can occur with teachers and their computers, but also with students, although the services of online platforms are constantly developing, so they should also be counted on. There are also barriers to online teaching that we have already mentioned, such as talking "into the void" while students have their cameras turned off. The teacher must maintain concentration and enthusiasm even though there is often no "feedback". This barrier is difficult to overcome, there is always a suspicion that some students are actually absent or doing something else and not listening to the lecture. The best strategy is to convince students that attending lectures is beneficial for them.

It is also necessary to take into account the diversity of students - while some are sociable, others are introverts, some are technologically knowledgeable, others are not, which limits their involvement in work. There may also be foreign students from other countries and regions, so problems such as different time zones or a bad internet network may occur. In such cases, it is good to overcome various difficulties by making it possible to record lectures that students can watch later.

Resources

► Discussing Ethical Issues in Online Teaching (Center for Innovative Teaching and Learning, 2023)
► The Good, the Bad, and the Ethical Issues of Online Education (Monella, 2021)
   Ethical issues of educators and students in online learning (Bakshi, 2021)
► Ethics principles in distance education (Mohsen, F. F. (2012).
► Ethics and Distance Education: Strategies for Minimizing Academic Dishonesty in Online Assessment, Online Journal of Distance Learning Administration (Olt, 2002).
► Academic Ethics? (Passmore, 1984).
► Perspectives on Positive Academic Ethics: An Introduction. (Pecorari, 2021.)

PLAGIARISM PREVENTION

Good plagiarism prevention outcomes in an institution depend primarily on each teacher's knowledge of academic integrity, copyright, and the links between academic literacy and plagiarism prevention.

The teacher must also use the institution's recommendations or guidelines for written work, and provide students with the same information on plagiarism prevention that is communicated at the institutional level.

The institution should have a **plagiarism prevention system** that clearly defines responsibilities, the concept and types of plagiarism, and provides for various plagiarism prevention measures and procedures. As a result, the students trust the study process, am motivated to prepare independent and creative written works. Individual cases of plagiarism prevention do not yield positive results, and students face a lot of uncertainty about the evaluation of different procedures and research papers. If the institution does not already have plagiarism prevention procedures in place, the teacher may initiate discussions about it and submit proposals to the institution's administration.

The plagiarism prevention system in the institution from the teacher's perspective should include the following aspects:

1. teaching students how to prepare written assignments and informing about plagiarism prevention,
2. proper preparation, submission and evaluation of study assignments,
3. use of plagiarism recognition and text matching tools for plagiarism prevention and education. The teacher is the most important participant in the plagiarism prevention system, on whose actions the success of plagiarism prevention in the institution depends.

How to inform and teach students about plagiarism prevention?

Students must be systematically informed and taught about the prevention of plagiarism by various means throughout all years of study. The teacher should cooperate with the institution's library, recommend courses, prepare tasks for students to find scientific sources in databases or the library, etc. The study material in the institution and for the specific subject should be prepared on the principle: "look and learn" or "see-do".

The teacher should provide information on:

- the **meaning and context of writing papers** (what skills are acquired when writing papers, why honesty is important as social responsibility, critical thinking, etc.);
- **specific study paper requirements** (structure, scope, sources, submission, feedback and evaluation procedures, evaluation criteria, etc.);
- **how to plan and prepare written works**, how to find, select and cite sources, compile a bibliography;
- **plagiarism prevention**, types of plagiarism and their consequences, how text matching tools work and how to interpret the results, in relation to citation of sources and copyright.

How to implement it in a VLE course?

- ► Using Moodle HP5 interactive tools, such as:
    - o *Image Hotspots* task, in which students associate skills acquired in the preparation of a job with their use in professional activities
    - o *Interactive video* tool provides information with interactive links to written work requirements, library resources, video tutorials, self-assessment questions, etc.
    - o *Timeline* task provides processes and dates for the submission, review, feedback, and evaluation of the written work
    - o In *Drag the Words* or *Fill in the blanks* tasks students have to drag words to the correct place in a sentence according to citation rules or terms according to the types of plagiarism, etc.
    - o In *Documentation Tool* task students list the parts of their research methodology (goal, objectives, methods, criteria, etc.) according to the given structure and explanations or organise the work according to the required structure, etc.
- ► A detailed scale for the evaluation of written work is developed (if Turnitin is used, the evaluation scale is developed with the Turnitin *Rubric* tool, which is then used in the feedback and work evaluation process)

- ► A demonstration of Turnitin or other text matching tool, explanation of properly used sources and plagiarism in a text matching report.
- ► Student-generated audio or video recordings, providing analysis of small practical tasks, storytelling-based stories (why it is worth being honest, able to think critically, respecting copyright, etc.), which are then discussed in a general discussion.

How to prepare, submit and evaluate written assignments?

Teachers must prepare tasks for which it would be impossible to use pre-written work, there must be a good organisation of the submission and evaluation of the work, interesting tasks, high-quality assessment of each work using constant feedback from students.

The teacher must consider the following aspects:

- ► **There should not be too many assignments**, so that students would have enough time to prepare. The work should be targeted at specific student skills.
- ► **The topics of the written work must be individual, problem-oriented or creative**, adapted to a specific study subject or module (students should not write on broad or theoretical topics, they should analyse, explain, apply their experience, analyse specific cases, etc.)
- ► **The topics must be updated annually** (research problems, cases, time period, latest sources used, specific scientific journals or other resources may change)
- ► **The preparation of large-scale works must be monitored** (students can present the work in parts, present intermediate results, explain the chosen sources, discuss the choice of theoretical aspects, etc.)
- ► **Each work must be honestly reviewed and evaluated** according to the plan and evaluation criteria prepared in advance and provided to the students, and specific feedback given.

How to implement it in VLE?

- ► **Annual updates** of written works information, providing teaching materials, and an updated list of study topics, so that each student can choose a separate topic.
- ► The task is published in the Moodle environment for submitting, commenting, and evaluating. Students are informed about this through Moodle messages, calendar, etc.
- ► Word may be used in editing mode, and comment section used for checking/consulting individual parts of paper or drafts, to **monitor the writing process.**
- ► Review parts of the written work and all planned work in the Moodle task or **Turnitin** verification report. Use an evaluation scale and a *Grade Mark* for comments and evaluations, where comments in the text can be linked to a specific point on the evaluation scale and its reasons.
- ► *CaptureCam* or similar tools may be used to visualise the writing process when consulting the students, or student can use these tools to demonstrate their ability to search for sources.
- ► *Google Meet, Zoom* or other tools may be used for consultations, work presentations, and discussions.

How to recognise plagiarism and use text matching tools?

> *Text match = text overlap found in the screening tool with texts and other sources from previously prepared or published work.*

If the written work is prepared independently, creatively, with proper use and citation of information sources, in accordance with the provisions of copyright and academic integrity, then plagiarism cases should be avoided.

How do text matching tools work?

Text matching tools perform text matching report of submitted work by comparing other sources and show: the percentage of text overlap coloured text overlaps the sources in which the overlap was found and the references to them.

The text matching tool does not show how many cases of plagiarism there are! It only provides text overlaps to be reviewed by the person in charge and to assess whether specific overlaps are cases of plagiarism!

Text matching tools only perform text matching (can't check images, drawings, program codes, etc.), checks only the sources they have access to (institution's database and on the Internet), and sources in the same language as the written work (or has to have an additional translation function)

Text match that may not considered as plagiarism:

► citations, such as exact excerpts of the text in quotation marks with the source of the citation indicated. The citation may be smaller than a few sentences (some institutions may define them in more detail).
► bibliographies, descriptions of sources, references to sources
► general knowledge (e.g., the Earth is round);
► tables, formulas and figures by other authors with references to the sources, provided that they are used lawfully (and/or in accordance with the rules of the institution) and that their size and quantity are not abused.
► various names, title and terminology
► single words or single sentences of a general nature
► appendices with references to sources containing additional material (statistical tables, legal or other documents, etc.) that was used to prepare the work for analysing and summarising information.
► other possible legal cases

What does text match percentage mean?

The percentage of matches reported in the text match report shows how much the text overlapped with other sources relative to the volume of work. The smaller the volume of work, the higher the percentage of overlap in the submission, e.g. a quote of the same size.

The percentage of text matches displayed by the tool does not indicate the level of plagiarism at work, and overlaps are not considered as plagiarism – they must be evaluated!

What percentage of text matches is allowed?

Good practice suggests that specific percentages of potential overlap should not be set, as this undermines the perception of plagiarism prevention. Students and teachers should aim to prevent plagiarism at work and not to set or formally reduce the percentage of text matches. The institutions decide how the text match reports should be assessed, whether the percentage of text matches should be assessed or whether this figure should not be relevant for the detection of plagiarism. Some institutions have decided that written papers may not contain more than 10% or 15% overlap, provided that there can be no coincidence to a certain extent in one place. Basically, the percentage of overlap does not show the true size of the plagiarism. Even above 30% or 50% text match in the work does not mean that there is plagiarism and vice versa – the text match may be 10% and the whole coincidence is a case of plagiarism. Each case of overlap needs to be reviewed and evaluated. Also, the restriction on the percentage of a specific overlap cannot be applied when preparing works that require the submission and analysis of excerpts from larger sources, etc.

Using a text matching tool

The institution should only use the trusted and approved text matching tools. Students and teachers should not submit their work in unknown systems that are not officially used by the institutions, as they may be subject to expropriation, copyright or other infringements. Text matching tools can be used by logging into individual systems or integrated into the Moodle environment. In this case, the teacher creates an interface for submitting work in the Moodle course as a Moodle task to which students upload the work and then the teacher and the student can see the text match report.

Text matching tools should be used as a tool to prevent and teach plagiarism, not as a means of punishing the students. Assignment review procedures must be in place in advance, so that the students know when and how many times revised assignments may be submitted, and when the teacher will give comments. It is good practice for students to be able to see the inspection report for the first time after uploading the work and to correct it on their own before the teacher has reviewed them. This gives the student an opportunity to adjust the work without fear of the teacher's initial comments and assessments.

The works submitted during the set period must be checked by the teacher, specific remarks must be made and the students must be allowed to correct their papers. Editing of papers is not allowed if the submitted work contains cases of large-scale plagiarism or it is related to the revisions of the final thesis in the last stage of its submission.

The institution should define how cases of plagiarism should be understood, what their types may be, what size citations may be in the written work, what is a natural coincidence of the text and what is a

case of plagiarism, what penalties should be given to a student for a certain amount of plagiarism, etc. The teacher should know this information and follow it in the study process.

ASSIGNMENT

Assignment

Turnitin Integrity plugin settings

☑ Enable Turnitin

Exclude from Similarity Reports
☐ Bibliography
☐ Quotes

Submission indexing
☐ Index all submissions

Generate Similarity Reports
◉ Immediately
◯ Immediately and regenerate on due date
◯ Due Date

Student access
☐ Allow students to view Similarity Reports

☐ Process draft submissions

Learn more about Turnitin settings

An example on how to enable Turnitin in a Moodle assignment:

Turnitin darbo ID	Pateiktas	Sutaptis	Įvertis					
--	--	--	✏	--	☁	--	--	--
1979481419	22/12/12, 23:05	8% ▮	--/10 ✏	•		⬇	⟳	🗑
--	--	--	✏	--	☁	--	--	--
--	--	--	✏	--	☁	--	--	--
--	--	--	✏	--	☁	--	--	--
--	--	--	✏	--	☁	--	--	--
1976612333	22/12/9, 21:17	75% ▮	--/10 ✏	•		⬇	⟳	🗑

After the student has submitted the assignment, the Turnitin displays the percentage of the plagiated text

🗗 turnitin™

Similarity Report ID: oid:17247:142195575

● 31% Overall Similarity

Top sources found in the following databases:

- 28% Internet database
- Crossref database
- 17% Submitted Works database

- 7% Publications database
- Crossref Posted Content database

TOP SOURCES

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	**alliance.edu.in** Internet	3%
2	**guides.library.upenn.edu** Internet	3%

Turnitin report with links to used databases

Best practices

- ► Plagiarism prevention *(*Kaunas University of Applied Sciences, Library and Information Resources Center, 2023).
- ► A Writing Process for Avoiding Plagiarism *(*Walden University, 2019)

Resources
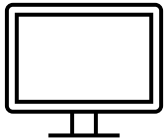
- ► A holistic approach to higher education plagiarism: agency and analysis levels (Domingues, 2021).
- ► Organising research on university student plagiarism: a process approach (Pàmies, Valverde & Cross 2020).
- ► Measures for plagiarism prevention in students' written works: case study of ASU experience (Stabingis, Šarlauskienė & Čepaitienė 2014).
- ► How to Pick the Best Plagiarism Checker? (Lee, 2023)

COPYRIGHT

What is copyright

> *Copyright refers to the rights that creators / artists have over their creative (e.g. literary, scientific and artistic) works.*

Copyright protects rights related to intellectual property such as books, articles, music, images, videos, software, illustrations, scientific text, student essays, thesis etc. A general mathematical formula is not protected by copyright laws, but a handbook including these mathematical formulas is. The copyright is needed to ensure that the creators' income.

"In the EU, copyright protection is obtained automatically from the moment when the work is created and no registration or other formality is required. However, some countries allow for the voluntary registration/ deposit of works protected by copyright. Therefore, registration is not constitutive of the right but can be useful in some situations (e.g. to solve disputes over ownership or creation, to facilitate financial transactions)" (European IP Helpdesk, 2019)

Although not obligatory, it is a common practice to mark a copyrighted work with a capital letter R or C in a circle, where the symbol R means Registered trademark, "all rights reserved" and the symbol C means Copyright. In order to use the copyright sign, the created work needs to be original enough.

Scope of protection

The *Berne Convention,* which is an internationally recognised system of international copyright protection, identifies two different categories of copyright:
- ► Economic rights – the artist / creator has a right to sell / license their works to others
- ► Moral rights - the artist has right to claim authorship to their work(s)

"The *Berne Convention* establishes that economic rights must last at least during the author's lifetime plus 50 years from his death. However, national legislations can provide longer protection e.g. in the EU, 70 years from author's death" (European IP Helpdesk, 2019)

The European Union Intellectual Property Office (EUIPO) provides services connected to protection of rights for trade mark and design throughout the European Union (EU) through online application. The same principles of copyright protection apply in all EU member countries, still there may be some differences in every of them according to their national law.

The copyright for teachers and students

Following the report on the subject of Intellectual Property in Education in Europe from 2015, which showed the need for greater inclusion of intellectual property (IP) concepts in education, EUIPO established a network of experts - representatives of the ministries of education of the EU member states as well as from national offices for intellectual property. The goal of this network is to jointly lead a development policy in the field of intellectual property and copyright protection in education in order to support the application of creativity, innovation, and the development of entrepreneurial initiative, but with the ethical and responsible use of IP-protected materials on all digital platforms.

The information on treatment of intellectual property and copyrights concerning education can be found at the European Union Intellectual Property Office Observatory under the title "EUIPO - IP in education" and the main aim of the Intellectual Property in Education Network is to promote creativity, innovation, entrepreneurship and responsible digital engagement among young Europeans (European Union Intellectual Property Office Observatory, 2023)*.*

The Frequently Asked Questions (FAQs) on copyright for teachers is a useful source of information for teachers and students in the EU on best practice in different EU countries containing answers to 15 key questions concerning subjects of copyright in education and especially protected content in the context of online education. Conditions for every EU country can be found via the below link:

FAQ on copyright for teachers
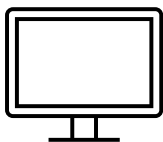
https://euipo.europa.eu/ohimportal/en/web/observatory/
faq-for-teachers

As an example of the above FAQ, a short excerpt from Croatia:

"Q1. a. Can teachers take photocopies or scan pages from books or newspapers for their students? If yes, under which conditions can teachers use them?

[…] In general, when using copyright works for example in teaching, teachers are obliged to observe the following conditions:
- ► *they must indicate the source and name of the author or other copyright holders;*
- ► *as a rule, only a part of the work or passages are to be used;*
- ► *the purpose of the educational activity must be non-commercial;*
- ► *giving examples in teaching is only allowed for specific purposes prescribed by the ZAPSP, which are supporting, enriching or supplementing teaching and teaching activities.*

It is noted that the non-commercial purpose implies the non-commercial purpose of an individual

teaching activity, where the organisational structure and funding of the educational institution are not decisive for determining whether the individual teaching activity is of a non-commercial nature.
Legal basis: Article 198(2), (3) and (4) ZAPSP

Q2. a. Under which conditions can teachers display movies in class or at school in general?

The screening of films protected by copyright and related rights is permitted in accordance with the substantive limitation of copyright solely for the purpose of giving examples in teaching.
To this effect, the screening of the film should be for the purposes of supporting, enriching or supplementing teaching and teaching activities, therefore, there should be a link between the teaching material being processed or the specific historical period being taught, and there must be a link between the teaching activities and the film that the teacher wants to present to pupils or students. Furthermore, a teacher must take into account that, without the consent of the copyright holder and without payment of remuneration, they are allowed to display only a part of the film to pupils and students, but not the entire film. Also, the teacher should remember that the source and name of the author or other copyright holders of the film are always to be stated and that the purpose of the teaching activity must not be commercial.

Legal basis: Article 198(2), (3) and (4) ZAPSP

(Excerption from Answer to Q6):
Q6. Under which conditions can teachers or students use copyrighted material (such as images, articles, photos) from the internet for educational purposes, such as in an assignment, presentation or in a digital learning environment?

The law explicitly provides for the possibilities of using a copyright work without prior authorisation from the copyright holder and/or without payment of remuneration. (…) The substantive limitations of copyright and related rights of importance for the use of works lawfully published on the internet, and for the purposes of teaching and teaching activities are: the limitation for the purposes of giving examples in teaching or in scientific research (Article 198(2) to (5) and Article 199 ZAPSP) as well as the limitation for the purpose of using quotes, critiques and reflections (Article 202 ZAPSP).

The conditions under which teachers are allowed to use copyright works or the subject matter of related rights legally available online, such as photographs, newspaper articles, etc., for the purposes of giving examples in teaching, during lectures, presentations or in the digital environment, refer to the following: (i) any use of the work should observe the moral rights of the author and it is therefore always necessary to indicate the source and name of the author or other copyright holders; (ii) as a rule, it is only permissible to use only a part of the work or a piece of the work; (iii) the purpose of the teaching activity must be non-commercial; (iv) the purpose of giving examples in teaching must be to support, enrich or complement teaching and teaching activities and (v) when it comes to digital and cross-border education, it should be taken into account that the use of said work takes place within the competence of the educational institution, in its premises or in other facilities or through a secure electronic environment accessible only to pupils or students and teaching staff of that educational establishments. In addition, teachers, pupils or students wishing to use content published online for teaching or scientific research, including critiques, arguments, reviews, retrospectives, reflections or the like, can use quotes or literally quote sections of a copyright work or the subject matter of related rights. At the same time, it should also be the case that the copyright work or the subject matter of a related right, from which the quote is used, was published on the internet in a lawful manner. The source and the name of the author should be indicated when using quotes, and the use of quotes must be to the extent justified by the stated purpose and must reflect good practice.

The authorisation of the author or copyright holder should be sought for any other use of contents protected by copyright or related rights that are published on the internet and are not in the public domain and are not covered by the substantive limitations of copyright and related rights. (etc.)

How copyright issues can be resolved

When using learning materials in a virtual environment, special caution is required in relation to copyright; some materials may be cited as secondary sources. Since unauthorised use of copyrighted material (e.g. images, video, music) can lead to legal action, universities and educational institutions as well as teachers should keep the following advise in mind to prevent copyright infringement:

► **SHARING THE LINK** - In the case of watching a video material or a work published on the internet, rather share a link to the web page of the material than download and share the material with students, provided that the material is available and legally placed on a digital platform. In this way, the authors will be visible and will receive credit for their publicly shared works.

► **OPEN ACCESS SOURCES** - Encourage the use of open access platforms where material is shared for free by informing your students about possible platforms for certain activities (e.g. Creative Commons). Such platforms do not charge for the use of copyrighted material, provided that it is used for educational purposes only, but be sure to teach your students to indicate the source of downloaded copyrighted work.

► **STOP STUDENTS FROM DISSEMINATION OF COPYRIGHTED WORK** - Teach your students the basic rules of protecting intellectual property and possible legal consequences to discourage them from further unauthorised dissemination and sharing of information and copyrighted materials they have received or used in class.

Teachers should also design their own copyrighted materials and presentations for lectures using open source works so that they can freely share their content with their students without worrying about infringing on someone else's copyright.

It is also desirable that the higher education institution subscribes to some digital platforms with sources of author's works (images and scientific papers) for greater possibility of creative work of its teachers and students.

Creative Commons

Creative Commons (CC) is an international free licensing system that allows the author of a work (for example, image, text, video) to define how others can use the work. The author always retains the copyright, but with the help of CC licenses it is possible to grant the user of the work more rights of use than the copyright would otherwise allow.

One of the advantages of the CC license is the use of author's works for educational purposes without compensation. In this way, students can freely use CC works (photos, illustrations, templates, etc.) for their exercises and student projects, and copy, share and sometimes change them without asking permission from the creator, but it is necessary to carefully study the details of each license.

There are 4 license elements which are mixed to create six CC licenses:

Source: https://libguides.longwood.edu/copyright/creativecommons

BY	Licensees may copy, distribute, display, perform and make derivative works and remixes based on it only if they give the author or licensor the credits (attribution) in the manner specified by these.
SA	Share alike
NC	Non-commercial
ND	No derivative work

Resources

- ► Creative Commons Information Pack for Teachers and Students (National Copyright Unit on behalf of the Copyright Advisory Groups - Schools and TAFEs, 2023)
- ► Your Guide to IP in Europe (European IP Helpdesk, 2019)
- ► Digital Education Action Plan 2021-2027 (European Education Area, 2020)
- ► Intellectual property and education in Europe. Study on IP education in school curricula in the EU member states with additional international comparison. (Office for Harmonization in the Internal Market. Trade Marks and Designs, 2015)
- ► Guidelines for teachers and educators on tackling disinformation and promoting digital literacy through education and training (European Commission, Directorate-General for Education, Youth, Sport and Culture, European Commission, Directorate-General for Education, Youth, Sport and Culture, 2022).
- ► Final report of the Commission expert group on tackling disinformation and promoting digital literacy through education and training (European Commission, Directorate-General for Education, Youth, Sport and Culture, 2022)
- ► Enhancing Learning Through Digital Tools and Practices: How Digital Technology in Compulsory Education Can Help Promote Inclusion (European Commission, Directorate-General for Education, Youth, Sport and Culture, Melstveit Roseme, M., Day, L., Fellows, T., et al., 2021)
- ► Digital education: free self-reflection tools (European Education Area, 2023)

ACCESSIBILITY

The accessibility in VLE can be viewed through many different contexts. The first of them refers to the technical and technological aspects of ensuring accessibility on digital platforms, but also creating content that will be suitable for the virtual environment. The next aspect includes information and communication assumptions of unlimited access to educational materials within higher education institutions, which is at the heart of the concept of open science and open data. Accessibility in VLE includes the sociological aspect through ensuring diversity, equity and inclusion. These factors are an indicator of the state of development of democratic systems within individual countries, as well as indicators of development of HEI. Furthermore, these indicators are also necessary for the inclusion of vulnerable and underrepresented groups in society (e.g., women, migrants, refugees, the elderly).

Designing educational materials for VLE is a demanding multidisciplinary process based on innovation and creativity of authors (creators) of the content, and it is also necessary to take the perspective of the other stakeholders – consumers of content and their desires, needs and expectations. We must therefore not to forget the pedagogical aspect, which aims to strengthen the digital competencies of teachers in a virtual environment that is significantly different from traditional ways of learning and teaching. The change in the educational paradigm in many countries has been driven by the Covid-19 pandemic, which has fundamentally changed the way we live and educate.

What is the accessibility in an online environment?

Accessibility in the online environment primarily requires knowledge of the characteristics of online media. Furthermore, creating content for online media is one of the following challenges as they significantly differ from traditional media such as books, printed materials or television. Different forms of communication are used, which differ depending on the size of the text, additional materials such as video or audio. A key indicator of success is interactivity and reach in the target group.

Resources

► The Dimensions of Accessibility to Online Information Systems: Implications for MIS Implementation (Culnan, 2015)
► Digital accessibility: Challenges and opportunities (Kulkarni, 2019)

What is accessible learning?

Accessibility in learning and education encompasses concepts such as open science, open resources as well as open access to sources of information. "Open Science is the practice of science in such a way that others can collaborate and contribute, where research data, lab notes and other research processes are freely available, under terms that enable reuse, redistribution and reproduction of the research and its underlying data and methods" (Foster, 2021).

"Open Access (OA) is free, uninterrupted, and uninterrupted network access digital scientific information which allows read, store, distribute, search, retrieval, indexing and / or other lawful use. Free in this context means permanently free of any restrictions and conditions for access and use" (Croatian Academy of Sciences and Arts, 2021.) Ensuring open access is based on strategic documents that are incorporated into national legislation, all with the aim of providing equal access to scientific information for all. We should also mention the readiness of educational institutions to be involved in this complex process by creating digital academic repositories. As examples of good practice in Croatia, we are mentioning the following OA infrastructure: CROSBI, HRČAK and Open Science data base in Finland.

Resources

► Guidelines for accessible information (European Agency for Special Needs and Inclusive Education, 2023)
► Assessing the accessibility of the online learning (Badge, Cann, Dawson & Scott, 2008)
► Creating Accessible Learning Environments (Thurber & Bandy, 2018).
► The EU's open science policy (European Commission, 2019)
► Guidelines for open educational resources (OER) in higher education (UNESCO, 2011)

Best practices

- ► [HRČAK – Portal of Croatian scientific and professional journals](#) (HRČAK, 2021)
- ► [Croatian Scientific Bibliography CROSBI](#) (Hrvatska znanstvena bibliografija, 2023)
- ► [Open Science data base Finland](#) (Secretariat for the National Open Science and Research Coordination Federation of Finnish Learned Societies, 2023)

Accessibility in e-learning

Accessibility in the online environment is important for the successful implementation of e-learning, not just of students with special needs but of every learner. It is important to ensure equal opportunities for all considering the technical and pedagogical aspects as well as aspects related to the content.

Examples of **technical** accessibility in e-learning

- ► online learning environments and materials can be used e.g. with different tools such as screen readers.
- ► The text and background should have an adequate contrast and the used fonts are large enough.
- ► Audio files / videos include transcripts

Examples of **pedagogical** accessibility in e-learning

- ► the learning content is available in different formats to support learners who benefit from auditive vs. visual learning materials
- ► students are able to choose whether they e.g. produce the final exam in a form of a video, text or audio format

Examples of **content-wise accessible e-learning**

- ► the learning content (e.g. text) is divided into logic units
- ► the used language (images etc) is clear
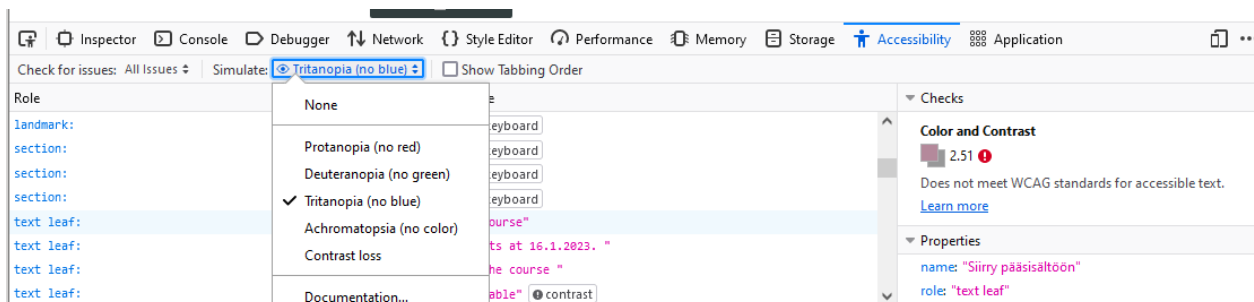
An example of a technical accessibility check. Many browsers allow users to issues related to accessibility of a website and e.g. simulate types of color blindness. E.g. in Firefox this tool is available at 'More tools' > 'Web developer tools' > 'Accessibility'.

Resources

- ► Accessibility Checklist for Online Course Development (Menedez, 2023)
- ► North Carolina Community College System VLE – Online Course Accesibility Checklist (NCCS Virtual Learning Community, 2014)
- ► Accessibility for online courses (University of Michigan, 2023)

Best practices (videos)

- ► eLearning accessibility: Busting the top 10 myths (The training, Learning and Development Community, 2022)
- ► Google Classroom accessibility empowers inclusive learning (Google, 2020)
- ► Reimagine: Supporting inclusive & accessible learning (Microsoft Education, 2022)

How can e-learning improve accessibility of education?

Ensuring diversity, equity and inclusion

Ensuring diversity, equality and inclusive education has become an imperative for many countries around the world. These are the concepts on the basis of which the democratic structure of individual countries and the development of their educational system, the degree of human freedoms, but also the existing cultural patterns are assessed. A comparative overview of the European approach to this issue, as well as the American and global ones, helps to understand the differences we strive to overcome, all with one and the same goal – ensuring a fair and accessible education for all.

Resources
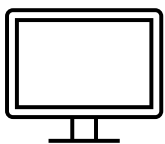
- ► Assessing Accessibility: How Accessible are Online Courses for Students with Disabilities? (Massengale & Vasques III, 2016)
- ► Equity and Inclusion in Higher Education Strategies for Teaching (Kumar & Refaei, 2021)

Best practice

- ► NERCHE Self-Assessment Rubric for the Institutionalization of Diversity, Equity, and Inclusion in Higher Education (New England Resource Center for Higher Education, 2016)

Accessibility for vulnerable groups in society

Inclusion in the higher education system implies also the inclusion of vulnerable and marginalised groups in society. Those are people with certain cognitive or physical disabilities that may diminish their competitiveness in a demanding labour market, but not their desire to achieve equal opportunities. The creators of educational content must be aware of this and try to adapt it to the age, but also to the difficulties of certain social groups.

Vulnerable groups include refugees and migrants who, due to their poor socio-economic status, have a necessity for lifelong learning with the aim of faster and more successful integration into cultures and societies that are quite different from their own.

Resources

- ► ICTs in Education for people with disabilities (UNESCO, 2011)
- ► Assessing Accessibility: Are Online Courses Better Than Face-to-Face Instruction At Providing Access to Course Content for Students with Disabilities? (Massengale & Vasquez, 2016)
- ► Free Digital Learning for Inclusion of Migrants and Refugees in Europe (Castaño-Muñoz, Colucci & Smidt, 2018)

Best practices

- ► Inclusive distance learning for students with disabilities at the University of Padua (Nota, 2020)
- ► Social inclusion of refugees into higher education: policies and practices of universities in Norway (Abamosa 2021)
- ► Promoting Effective Integration of Migrants and Refugees in Education, Experineces for Spain, Serbia and Belgium (Bunar, 2019)
- ► What is Digital Accessibility? (Deque Systems, 2019)
- ► Making Your E-Learning Courses Accessible for Those With Disabilities (E-Learning Uncovered, 2017)

How to create accessible virtual learning materials?

Designing educational materials for e-learning requires a multidisciplinary approach and cooperation of experts from different fields – informatics, communication sciences, pedagogy, speech therapy, psychology, sociology, economics, etc. Namely, knowledge transfer through modern mass media and forms of communication (video, blog, vlog , podcast) requires special skills: from storytelling, editing and editing to approaching the content of abstract courses in a simple and understandable way. Taking the perspectives of students and the audience in general can be a useful path, but the need for continuous research of the user experience should certainly not be overlooked.

Universal Design for Learning (UDL) principles form a good basis for creation of accessible learning materials. This way the teacher does not necessarily need the information on students' special needs in

case the learning contents and environments have been planned as accessible from the get-go. Please refer to the section on "Learning Design" related to this topic in more detail.
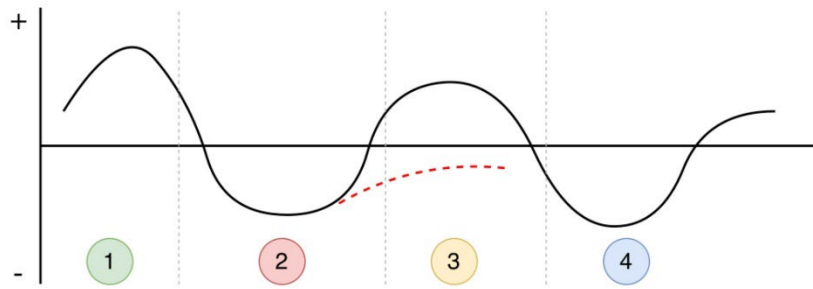
Photo 1: Cultural adaptation U curve by Sverre Lysgaard. Source: Wikimedia.

Attaching descriptive captions to photos makes them more accessible.

The Zoom video conference tool enables live captioning as well as the possibility to save the transcript for later use.

Zoom video conference tool displaying live captioning while the presenter is talking.

Resources

- ► A Tutorial for Making Online Learning Accessible to Students with Disabilities (Burgstahler, 2020)
- ► Nordic Rebels: A Blended Approach to Fix Higher Education (Lehtonen, Chew, Schilli & Varadarajan, 2019)
- ► Digital Competence – Providing Tools to Create an Inclusive eLearning Course (University of Tasmania, 2022)
- ► How To Achieve Accessibility In eLearning: 4 Principles (Bleich, 2023)

GDPR

The focus of this part will be on the key concepts of the General Data Protection Regulations, also known as GDPR. The European Data Protection Regulation is applicable in all EU member states from 2018. It addresses the use of personal data in companies and organisations, such as universities.

Personal data

In the EU regulation, the concept of *'personal data'* means *"any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person"* (Official Journal of the European Union, 2016).

In practice, the personal data refers to any data that can be assigned to a person in any way (e.g. phone number, (IP) address, personal number, account data etc.). Always when processing of personal data, the GDPR applies.

EU also addresses the questions related to the use of online applications. According to the Regulations, *"Natural persons may be associated with online identifiers provided by their devices, applications, tools and protocols, such as internet protocol addresses, cookie identifiers or other identifiers such as radio frequency identification tags. This may leave traces which, in particular when combined with unique identifiers and other information received by the servers, may be used to create profiles of the natural persons and identify them"* (Official Journal of the European Union, 2016).

Sensitive personal data

Personal data protection is a term closely related to privacy, so both are used in connection with the GDPR. One of the subcategories of the personal data is **sensitive personal data**. This can refer to e.g. information related to a person's origin, health, race, political views, religion. This type of data needs high level protection.

The right to process personal data

A company or organization only has the right to process personal data in case
- ► the user has given the consent to use the personal data or
- ► the company/organization needs the personal data in order to fulfill its obligations described in a contract / a law or due to a legitimate interest
- ► personal data is needed to protect common interests or fundamental interest of the person

Privacy statement

The GDPR requires that the registrar (company / organization) informs the registered user on what personal data is collected and how this data is being processed. The user always has the right to request this information. A privacy statement is not required by the Regulation. However, a privacy statement is a convenient way to inform all registered persons about the p. Typically a privacy statement includes following information

At minimum the following information must be given to the registered persons:
- ► who processes the personal data
- ► why this data is collected and processed
- ► what is the legal basis for processing the data
- ► who receives the data

In some cases more detailed information is required.

Resources

- ► REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (Official Journal of the European Union, 2016)

- ► Reform of EU data protection rules (European Commission 2023).

- ► What is GDPR? (Horizon 2020, 2023)

- ► How universities have to adapt under the new EU General Data Protection Regulation (GDPR) (Tattersfield, 2023)

Higher Education Institutions and GDPR

Managing Data and Monitoring User Activity

Every higher education institution should take care of the protection of personal data of its students and control the possibility of access of each individual person or entity. Technology makes access to student data relatively easy, so various measures need to be maintained to keep confidential data secure. When taking measures to protect the data of their students, higher education institutions (HEI) should consider the following measures:

- ► Reduce the amount of information collection

- ► Monitor and protect institutional networks

- ► Train employees and teaching staff

- ► Establish criteria for deleting unnecessary information

- ► Encrypt electronic data

- ► Enable the anonymity of students when publishing results

- ► Publish data protection policies, procedures and protocols.

Every institution of higher education should maintain a record keeping policy and clear standards that regulate the method of data storage, the duration of storage with regard to individual categories of data, as well as the method of their storage (e.g. evaluations of individual courses, records of exercises, notes on student activities, etc.) Data storage periods can be longer or shorter, depending on the type of information (in principle between 1 and 7 years after the student's graduation).

Higher education institutions should also pay special attention to the use of mobile devices in classes and while students are in the premises of the institution, such as laptops and smartphones, which provide the possibility of hacking sensitive data. Therefore, it is recommended to use a secure email service with HTTPS encryption, as well as encrypt files with confidential information.

Teachers should be careful when keeping confidential information about students, giving access to the information they keep, and avoid discussing student records with others, unless they have a legitimate need (meetings of teachers within the Department, applications to the Ethics Committee about problematic students, etc.). Also, when teaching, if we present examples of student works, it is necessary to use neutral images and avoid personal data (name and surname) that reveal the student's identity, except in the case we have their written consent. If live data is important, you can obfuscate or blur sensitive information.

Educating students on privacy

With the increasing use of the Internet for learning and teaching, there is an increased risk of students becoming victims of cybercrime, which can include fraud, identity theft, stalking, bullying, email scams, forgery and identity theft. Therefore, it is necessary to warn students about these risks and familiarise them with ways to protect themselves, their privacy and their devices.

Students can take various precautions to protect their data on mobile devices, such as:

- ► Regularly update mobile devices and applications, avoid unknown websites, delete and report suspicious emails.

- ► Optimize their operating system, browser and security software regularly;

- ► Connect all home devices to the Internet via a secure Wi-Fi network;

- ► Use strong passwords and two-factor authentication;

- ► Pay attention to the publication of sensitive personal information when using social media.

Resources

Articles

- ► Data Privacy Assessment: An Exemplary Case for Higher Education Institutions (Habbabeh, Schneider & Asprion, 2019.

- ► Preparing Students for the Era of the General Data Protection Regulation (GDPR) (Gligora Marković, Debeljak & Kadoić , 2019).

- ► Understanding Student Privacy and Protecting Their Information (Keeter 2021).

Video clips:

- ► GDPR Guidance for Schools (Department of education, 2023)
- ► GDPR Awareness for School Staff (GDPR in Schools - GDPRiS, 2023)

Use of images & videos in universities

Also a photo or a video of a person is a personal data. That is why higher education institutions should pay special attention to the treatment of images, videos and recordings that are the subject of personal data protection. Typically image records are used in higher education in various situations, from online classes that are usually recorded so that they are available to students later, through publications, websites and social media. Such photos and recordings may not be publicly published or used on institutional websites/profiles or on social networks, if they reveal the student's identity, except in the case that the institution has the student's written consent (for each medium separately).

In case it is impossible to collect written consent on the persons appearing in photo / video materials, it is necessary to inform all participants in advance by including a notice in the invitation that the event will be digitally documented..

Recording lectures

The same requirements apply to the creation and publication of HEI video materials. Students should be warned in advance of the intention to record the lecture (as well as of the recording being available for later viewing). The teacher can ask the student to identify him/herself at the beginning of the lesson, but he/she cannot ask that his/her camera be turned on during the recording of the online lecture. Students

should also be informed if the chat /or other ways of online communication (*whiteboards* etc.) is going to be saved and for what reason. The platform through which lectures are recorded should protect the privacy of students by preserving the confidentiality and security of their personal data in accordance with the GDPR.

Moodle & GDPR

Also Moodle collects personal data. The data can be collected based on consent, contract, legal right or legitimate interest. Users always have the right to request a copy of the information that Moodle or the HEI holds about them. Typical data collected through Moodle are student's name, email, user account, content created by the student such as assignments, comments as well as log data. The issue of collecting Moodle learning analytics is a complex one as this data is quite detailed and sensitive to a certain extent.

Read more: https://moodle.com/privacy-notice/

My active sessions

Log in	Last access	Last IP address
Thursday, 20 April 2023, 4:19 PM	Current session	10.897.287.78

Moodle collects data e.g.on browser sessions of the users

Best practices

► Privacy Notice for the Moodle learning environment (University of Jyväskylä, 2021)

► Guidance on Images and videos concerning GDPR (London's Global University, 2019)

► FAQ GDPR AND EDUCATION (The University of Twente, Netherlands, 2023)

► GDPR for students (Karlstad University, 2023)

► Student Guide to GDPR (University of London, 2023)

GDPR and student evaluation

The issue of privacy and the sharing of sensitive personal data should be regulated in advance by the study contract of each educational institution with its students. Every educational institution has the obligation according to its national legal framework to collect and keep records of examinations (including records of attendance, activities, engagement and work of students, details of passed tests or exams and elements of the final grade). Teachers are obliged to evaluate their students' work transparently according to pre-published criteria, but students should also be informed about the method and length of storage of individual evaluation elements.

According to the article 5 of GDPR Regulations, *"Universities shall process personal data based on the confidentiality principle , i.e. students' data should be secure from unauthorised access and made available on a "need-to-know" basis with teachers. Making a student's full record available to any teaching faculty would be against the data minimization principle, since their grades do not constitute necessary information for teachers to conduct classes."* Based on the above-mentioned principles, it is necessary to request the student's consent for members of the faculty staff even when processing data for the purpose of mentoring. Teachers should determine in advance the procedures related to the handling and access to confidential documents with everyone involved in certain procedures (committee exam, application of the topic of the final paper, etc.).

Resources

How to process personal data in virtual learning

- ► A Holistic Cybersecurity Maturity Assessment Framework for Higher Education Institutions in the United Kingdom Aliyu, Maglaras, He, Yevseyeva, Boiten, Cook & Janicke, 2019.
- ► Privacy and E-Learning: A Pending Task (Alier, Casañ Guerrero, Amo, Severance & Fonseca, 2021).
- ► Personal Data and Privacy Protection in Online Learning, Guidance for Students, Teachers and Parents, June 2020, Version 1.0, Sart Learning Institute of Beijing Normal University (Huang, Liu, Zhu, Chen, Yang, Tlili, Fang & Wang, 2020).
- ► Understanding Student Privacy and Protecting Their Information (Keeter, 2020).
- ► Preparing students for the era of the General Data Protection Regulation (Marković, Debeljak & Kadoić, 2019)

GDPR and cloud services

- ► For Learning Analytics to Be Sustainable under GDPR—Consequences and Way Forward (Karunaratne, 2021).

GDPR in social media

- ► Common Sense Education: Learn how to keep student information confidential on social media (Higgin, 2022)
- ► School posts on Facebook could threaten student privacy. The Conversation. (Rosenberg, 2022)
- ► Taking photos at school events – Where common sense comes into play (Data protection commission Ireland, 2019).
- ► GDPR in Moodle. Moodle, 2023.

Other topics

- ► A brief guide to GDPR for schools and teachers (School Education Gateway, 2018)
- ► A guide to GDPR for universities (Winqvist, 2023)
- ► The GDPR and higher education - a debate by a panel of GDPR experts (Damásio, 2023)

References

► Abamosa Juhar. 2021. Social inclusion of refugees into higher education: policies and practices of universities in Norway. DOI: 10.1080/00131911.2021.2009443.

► Adobe Inc, 2019 *Create and verify PDF accessibility.* Retrieved 27.4.2023. helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html

► Aksovaara Satu. 2021. *Opiskeluhyvinvoinnin perusta on pedagogiikassa.* Training notes. A presentation on 9.2.2022 at Savonia University of Applied Sciences.

► Alamer Ali & Alharbi Fawaz. 2021. *Synchronous distance teaching of radiology clerkship promotes medical students' learning and engagement.* Insights Imaging 12, 41. https://doi.org/10.1186/s13244-021-00984-w

► Alier, Marc, Casañ Guerrero Maria Jose, Amo Daniel, Severance Charles, Fonseca David. 2021. *Privacy and E-Learning: A Pending Task*. Sustainability 2021, *13*, 9206. https://doi.org/10.3390/su13169206

► Aliyu Aliy, Maglaras Leandros, He Ying , Yevseyeva Iryna, Boiten Eerke, Cook Allan and Janicke Helge. 2020. *A Holistic Cybersecurity Maturity Assessment Framework for Higher Education Institutions in the United Kingdom*. Applied Science 2020, 10, 3660; doi:10.3390/app10103660

► Anderson Lorin, Airasian Peter & Krathwohl David. 2001. *A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives.* Pearson.

► Anwar Toni, Salam Sazilah, Saputro Ruijanto Eko & Zakaria Mohd Hafiz. 2019: *A gamification framework to enhance students' intrinsic motivation on MOOC.* Telkomnika vol.17, p.p. 170-178.

► Badge Joanne, Cann Alan, Dawson Emma & Scott Jon. 2008. *Assessing the accessibility of the online learning. Innovations in Education and Teaching International*. International, 45:2, 103-113, Doi: 10.1080/14703290801948959

► Balart Carmen & Cortes Silvia. 2015. *The use of digital portfolio as a strategy to assess learning skills in the context of initial teacher training*. Dialnet. Retrieved 25.10.2018. https://dialnet.unirioja.es/descarga/articulo/5869963.pdf

► Ball Samuel. 1977. *Motivation in education.*

► Barret Helen. 2023. *Is the future of ePortfolios in your pocket?* Retrieved 27.4.2023. https://sites.google.com/site/mportfolios/home

► Barret Helen, 2023. ePortfolios with GoogleApps. Retrieved 24.4.2023. https://sites.google.com/site/eportfolioapps/

► Bleich Corey. 2023. *How To Achieve Accessibility In eLearning: 4 Principles.* Retrieved 28.4.2023. https://www.edgepointlearning.com/blog/accessibility-in-elearning/

► Brame Cynthia & Biel Rachel. 2015. *Setting up and facilitating group work: Using cooperative learning groups effectively.* Vanderbilt University Center for Teaching. Retrieved 27.4.2023. http://cft.vanderbilt.edu/guides-sub-pages/setting-up-and-facilitating-group-work-using-cooperative-learning-groups-effectively/

► Brewer Graham, Sher Willy & Williams Anthony. 2007. *Utilising Learning Contracts to Stimulate Student Ownership of Learning.* Research gate.

► Bunar Nihad 2019. *Promoting Effective Integration of Migrants and Refugees in Education, Experineces for Spain, Serbia and Belgium*. European Trade Union Committee for Education.

► Burgstahler Sheryl. 2020. A Tutorial for Making Online Learning Accessible to Students with Disabilities. Retrieved 28.4.2023. https://www.washington.edu/doit/tutorial-making-online-learning-accessible-students-disabilities

► CAST. 2018. *Universal Design for Learning Guidelines version 2.2.* Retrieved 27.4.2023. http://udlguidelines.cast.org

► Castaño-Muñoz Jonatan, Colucci Elizabeth & Smidt Hanne. 2018. *Free Digital Learning for Inclusion of Migrants and Refugees in Europe*. International Review of Research in Open and Distributed Learning. Volume 19, Number 2, April 2018

► Cavanah Michael. 2011. *Students' experiences of active engagement through cooperative learning activities in lectures.* Active Learning in Higher Education 12(1) 23–33.

► Cecchini José, Fernandez-Rio Javier, Méndez-Giménez Antonio, González Carmen; Sánchez Martínez Beatriz, Carriedo Alejandro. 2021. *High versus low-structured cooperative learning.*

Effects on prospective teachers' regulation dominance, motivation, content knowledge and responsibility. European Journal of Teacher Education, 44:4, 486-501, DOI: 10.1080/02619768.2020.1774548

► Conde Vélez Sara, Delgado-García Manuel, Toscano Cruz María de la O. 2021: *Cooperative learning at university: opinion of students and application of the instrument Cooperative Learning Questionnaire (CLQ).* Innovations in Education and Teaching International, 59:5, 564-573, DOI: 10.1080/14703297.2021.1932557

► Collado-Valero Joshua, Rodríguez-Infante Gemma, Romero-González MARTA, Gamboa-Ternero Sara, Navarro-Soria Ignasi, Lavigne-Cerván Rocío. 2021. *Flipped Classroom: Active Methodology for Sustainable Learning in Higher Education during Social Distancing Due to COVID-19*. Sustainability 2021, 13(10), 5336.

► Croatian Academy of Sciences and Arts, 2021. *Croatian Declaration on Open Access.* Retrieved 23. 1. 2021. https://www.fer.unizg.hr/oa2012/declaration

► Culnan Mary. 2015. *The Dimensions of Accessibility to Online Information Systems: Implications for MIS Implementation*. ICIS 1983 Proceedings. 4.

► Damásio, Hugo. 2023. *The GDPR and higher education - a debate by a panel of GDPR experts.* Retrieved 24.4.2023. https://www.fullfabric.com/articles/the-gdpr-and-higher-education-a-debate-by-a-panel-of-gdpr-experts

► Deque Systems. 2019. *What is Digital Accessibility?* Retrieved 28.4.2023. https://www.youtube.com/watch?v=grrx2Lva7T0

► Department of education, UK. *GDPR Guidance for Schools*. Retrieved 28.4.2023. https://www.youtube.com/watch?v=y09IHXv6u6M

► Deterding, S., Dixon, D., Khaled, R., y Nacke, L. 2011. *From game design elements to gamefulness: Defining "gamification*. Proceeding of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments, pp. 9–15. doi: 10.1145/2181037.2181040

► Domingues Ivo. 2021. *A holistic approach to higher education plagiarism: agency and analysis levels*. Higher Education Research & Development*, 1-16.

► EdubotsEU. 2023. *Exploring the Role of Chatbots in Higher Education. Retrieved 25.4.2023. https://www.youtube.com/channel/UCiugOiSwqPtZLP_L2ejLp-A*

► EduTrends. 2016. *Gamification in Education*. Retrieved on 24.4.2023. https://www.activateleadership.co.za/wp-content/uploads/2020/11/EduTrends-Gamification.pdf

► E-Learning Uncovered. 2017. *Making Your E-Learning Courses Accessible for Those With Disabilities*. Retrieved 28.4.2023. https://www.youtube.com/watch?v=sFq94HAcZFk

► European Agency for Special Needs and Inclusive Education. 2023. *Guidelines for accessible information*. ICT for Information Accessibility in Learning project.

► European Commission, Executive Agency for Small and Medium-sized Enterprises. 2019. *Your guide to IP in Europe.* Publications Office. https://data.europa.eu/doi/10.2826/94924

► European Union Intellectual Property Office Observatory. 2023*. FAQ for teachers.* Retrieved on 27.4.2023. https://euipo.europa.eu/ohimportal/en/web/observatory/faq-for-teachers

► European Commission. 2019. *The EU's open science policy*. European Union.

► European Commission, Directorate-General for Education, Youth, Sport and Culture. 2022. *Guidelines for teachers and educators on tackling disinformation and promoting digital literacy through education and training*. Publications Office of the European Union.

► European Commission, Directorate-General for Education, Youth, Sport and Culture. 2022. *Final report of the Commission expert group on tackling disinformation and promoting digital literacy through education and training : final report.* Publications Office of the European Union.

► European Commission. 2023. *Reform of EU data protection rules.* Retrieved 28.4.2023. https://commission.europa.eu/law/law-topic/data-protection/reform_en

► European Commission, Directorate-General for Education, Youth, Sport and Culture, Melstveit Roseme, M., Day, L., Fellows, T., et al., 2021. *Enhancing learning through digital tools and practices : how digital technology in compulsory education can help promote inclusion : final report.* Publications Office.

► European Education Area. 2020. *Digital Education Action Plan 2021-2027.* Retrieved 27.4.2023. https://education.ec.europa.eu/focus-topics/digital-education/action-plan

► European Education Area. 2023. *Digital education: free self-reflection tools*. Retrieved on 27.4.2023. https://education.ec.europa.eu/focus-topics/digital-education/about/self-reflection-tools

► Faculty Focus. 2022. *Synchronous Online Classes: 10 Tips for Engaging Students.* Retrieved 27.4.2023. https://www.facultyfocus.com/articles/online-education/online-student-engagement/synchronous-online-classes-10-tips-engaging-students/

► Fazal Minaz & Navarrete Cezar. 2019. *Can Flipped Learning Work in Online Courses?* Academic Exchange Quarterly Winter 2019 ISSN 1096-1453 Volume 23, Issue 4.

► Fazal Minaz & Navarrete, Cezar, 2020. *Flipped learning in online courses: challenges and possibilities.* INTED2020 Proceedings, p. 139.

► Fisher Douglas, Frey Nancy & Hattie John Aallan. 2020. *The Distance Learning Playbook, Grades K-12: Teaching for Engagement and Impact in Any Setting – Module 3.* Sage Publications.

► Foster. 2021. *Open Science Definition.* Retrieved on 12.11.2021. https://www.fosteropenscience.eu/taxonomy/term/100

► GDPR in Schools (GDPRiS). GDPR Awareness for School Staff. Retrieved 28.4.2023. https://www.youtube.com/watch?v=4yPxs4D9u_c

► Gligora Marković, M.; Debeljak, S.; Kadoić, N. (2019). *Preparing Students for the Era of the General Data Protection Regulation* (GDPR), TEM Journal, 2019, 8, 150 – 156, https://urn.nsk.hr/urn:nbn:hr:184:114090

► Google. 2020. Google Classroom accessibility empowers inclusive learning. Retrieved 28.4.2023. https://www.youtube.com/watch?v=4j5-7xQ_7qM

► Han Shin-Il & Son Hyesook. 2020. *Effects of Cooperative Learning on the Improvement of Interpersonal Competence among Students in Classroom Environments.* International Online Journal of Education and Teaching (IOJET), 7(1). 17-28. http://iojet.org/index.php/IOJET/article/view/717

► Hansch Anna, Newman Christopher & Schildhauer Thomas. 2015. *Fostering Engagement with Gamification: Review of Current Practices on Online Learning Platforms*. HIIG Discussion Paper Series No. 2015-04.

► Hattie John & Yates Gregory, 2013. Visible learning and the science of how we learn. Routledge. https://doi.org/10.4324/9781315885025

► Hughes Andrew, 2019. *5 Instructional Design Tips to consider for simulation training. eLearning Industry*. Retrieved 27.4.2023. https://elearningindustry.com/simulation-training-instructional-design-tips

► HRČAK. 2021. *Portal of Croatian scientific and professional journals*. Retrieved on 27.4.2023. https://hrcak.srce.hr/en

► Horizon 2020. 2023. *What is GDPR?* Proton AG. Retrieved 28.4.2023. https://gdpr.eu/what-is-gdpr/

► Hrvatska znanstvena bibliografija. 2023. *Croatian Scientific Bibliography CROSBI*. Retrieved 27.4.2023. https://www.bib.irb.hr/

► Huang, R.H., Liu, D.J., Zhu, L.X., Chen, H.Y., Yang, J.F., Tlili, A., Fang, H.G., Wang, S.F. 2020. *Personal Data and Privacy Protection in Online Learning, Guidance for Students, Teachers and Parents.* Sart Learning Institute of Beijing Normal University. June 2020, Version 1.0.

► Johnson David & Johnson Roger, 1996. *Meaningful and manageable assessment through cooperative learning*. Interaction Book Co.

► Johnson David, Johnson Roger & Holubec Edythe. 1999. *Cooperative learning in the classroom.* Barcelona, Editorial Paidós.

► Karlstad University. 2023. *GDPR for students*. Retrieved 23.4.2023. https://www.kau.se/en/student/current-student/it-support/help/gdpr/gdpr-students

► Karunaratne Thasmee. 2021. *For Learning Analytics to Be Sustainable under GDPR—Consequences and Way Forward*. Sustainability 2021, 13, 11524. https://doi.org/10.3390/su132011524

- Kaunas Library and Information Resources, 2023. *Plagiarism Prevention.* Retrieved 27.4.2023. https://biblioteka.kaunokolegija.lt/en/aktualu/plagiato-prevencija/
- Keeter Sandy. 2021. *Understanding Student Privacy and Protecting Their Information*. Retrieved 24.4.2023. https://todayslearner.cengage.com/understanding-student-privacy-and-protecting-their-information/
- Kim Bohyun. 2015. *Understanding Gamification.* Americal Library Association. Library Technology Reports, 51(2), 29-35.
- Kulkarni Mukta. 2019. *Digital accessibility: Challenges and opportunities.* IIMB Management Review. Volume 31, Issue 1, March 2019, Pages 91-98.
- Kumar Rita & Refaei Brenda. 2021. *Equity and Inclusion in Higher Education Strategies for Teaching.* University of Cincinnati Press.
- Latorre-Cosculluela Cecilia. 2020. *Flipped Classroom model before and during COVID-19: using technology to develop 21st century skills*. Interactive Technology and Smart Education. 22 Sep 2021, Vol. 18, Issue 2, pages 189 - 204
- Lee Christine, 2023. *How to Pick the Best Plagiarism Checker?* Retrieved 23.4.2023. https://www.turnitin.com/blog/how-to-pick-the-best-plagiarism-checker
- Lee Jihyun, Lim Cheolil & Kim Hyeonsu, 2016. *Development of an instructional design model for flipped learning in higher education*. Education Tech Research Dev 65, 427–453 (2017). https://doi.org/10.1007/s11423-016-9502-1.
- Lehtonen Miikka, Chew Jia Ying, Schilli Katharina & Varadarajan Adithya. 2019. Nordic Rebels: A Blended Approach to Fix Higher Education. Retrieved 28.4.2023. https://unlimited.hamk.fi/ammatillinen-osaaminen-ja-opetus/nordic-rebels/#.ZEkbAXZByUl
- London's Global University, 2019. *Guidance on Images and videos concerning GDPR. Retrieved 28.4.2023.* https://www.ucl.ac.uk/legal-services/ucl-general-data-protection-regulation-gdpr/guidance-notices-ucl-staff/guidance-note-capturing
- Longwood University. 2023. *Copyright and Fair Use: Creative Commons.* Retrieved 27.4.2023. https://libguides.longwood.edu/copyright/creativecommons
- Marković Maja, Debeljak Sandra & Kadoić Nikola. 2019. *Preparing students for the era of the General Data Protection Regulation*. TEM Journal. Volume 8.
- McCool David. 2021. *Engaging Learners Through Simulations Is Easy With These 4 Tips.* eLearning Industry. Retrieved 27.4.2023. https://elearningindustry.com/engaging-learners-through-simulations-is-easy-with-these-4-tips
- Menedez Becky. 2023. *Accessibility Checklist for Online Course Development.* University of Maryland. Retrieved 28.4.2023. https://www.umaryland.edu/media/umb/af/fctl/resources-page/Accessibility-Checklist-for-Online-Course-Development.pdf
- Mendo-Lázaro Santiago, León-del-Barco Benito, Felipe-Castaño Elena, Polo-del-Rio María-Isabel & Iglesias-Gallego Damian. 2018. *Cooperative Team Learning and the Development of Social Skills in Higher Education. The Variables Involved.* Front. Psychol., 22 August 2018. Sec. Educational Psychology. Volume 9 – 2018. https://doi.org/10.3389/fpsyg.2018.01536
- Massengale Lindsey & Vasques III Eleazar. 2016. *Assessing Accessibility: How Accessible are Online Courses for Students with Disabilities?* Journal of the Scholarship of Teaching and Learning, Vol. 16, No. 1, February 2016, pp. 69-79. doi: 10.14434/josotl.v16i1.19101.
- Microsoft Education. 2022. *Reimagine: Supporting inclusive & accessible learning*. Retrieved 28.4.2023. https://www.youtube.com/watch?v=cToQ6-NVtLA
- Mohsen Samuel. 2012. *Ethics principles in distance education.* Procedia - Social and Behavioral Sciences, vol. 46, 2012. doi:10.1016/j.sbspro.2012.05.218.
- Nord Anglia Education, 2021. *The Importance of Online Learning to Students and Teachers.* Retrieved 27.4.2023. https://www.nordangliaeducation.com/news/2021/03/17/the-importance-of-online-learning-to-students-and-teachers
- National Copyright Unit on behalf of the Copyright Advisory Groups - Schools and TAFEs, 2023. *Creative Commons Information Pack for Teachers and Students.* Retrieved 27.4.2023. https://smartcopying.edu.au/creative-commons-information-pack-for-teachers-and-students/

► NCCS Virtual Learning Community. 2014. *Online Course Accesibility Checklist.* North Carolina Community College System Virtual Learning Community. Retrieved 27.4.2023. https://www.waynecc.edu/wp-content/uploads/vlcCourseAccListUpdated.pdf

► New England Resource Center for Higher Education, 2016. *NERCHE Self-Assessment Rubric for the Institutionalization of Diversity, Equity, and Inclusion in Higher Education.*

► Nota Paula. 2020. *Inclusive distance learning for students with disabilities at the University of Padua*. UNESCO. Retrieved 28.4.2023. https://www.unesco.org/en/articles/inclusive-distance-learning-students-disabilities-university-padua

► Official Journal of the European Union. 2016. *REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).*

► Office for Harmonization in the Internal Market. Trade Marks and Designs. 2015. *Intellectual property and education in Europe. Study on IP education in school curricula in the EU member states with additional international comparison.* Doi: 10.2814/165598.

► Olt Melissa. 2002. *Ethics and Distance Education: Strategies for Minimizing Academic Dishonesty in Online Assessment.* Online Journal of Distance Learning Administration, Volume V, Number III, Fall 2002, State University of West Georgia, Distance Education Center.

► Online learning insights. 2023. *Power of the "Profile Pic" in Online Learning. Retrieved 25.4.2023. https://onlinelearninginsights.wordpress.com/2012/06/07/*

► Pàmies Maria, Valverde Mireia & Cross Christine. 2020. *Organising research on university student plagiarism: a process approach.* Assessment & Evaluation in higher education, 45 (3), 401-418.

► Passmore John. 1984. *Academic Ethics?* Journal of Applied Philosophy. Volume 1. Issue 1. Pages 63-77. https://doi.org/10.1111/j.1468-5930.1984.tb00187.x

► Pecorari Diane. 2021. *Perspectives on Positive Academic Ethics: An Introduction, Journal of Academic Ethics.* https://doi.org/10.1007/s10805-021-09439-9

► Phillips Jessica & Wiesbauer Franz. 2022. *The flipped classroom in medical education: A new standard in teaching, Trends in Anaesthesia and Critical Care*. Volume 42, February 2022, Pages 4-8. Trends in Anaesthesia and Critical Care. Short Communication

► Portland State University, 2023. Featured student e-portfolios. Retrieved 25.4.2023. https://www.pdx.edu/university-studies/featured-student-e-portfolios

► Sajiene Laima & Tamulienė Rasa. 2012. *Quality Assessment Parameters for Student Support at Higher Education Institutions*. Quality of Higher Education*, 9, 120-139.

► Secretariat for the National Open Science and Research Coordination Federation of Finnish Learned Societies. 2023. *Open Science data base Finland.* Retrieved 28.4.2023. https://www.avointiede.fi/fi

► Symonds Research. 2023. *21 Free Fun IceBreakers for Online Teaching, Students & Virtual and Remote Teams.* Retrieved 27.4.2023. https://symondsresearch.com/icebreakers-for-online-teaching/

► Tamulienė Rasa. 2014. *Student support identification model at non-university higher education studies.* Summary of Doctoral Dissertation*. Kaunas: Vytautas Magnus University. https://portalcris.vdu.lt/server/api/core/bitstreams/acab2b7e-6d49-4ca7-bb79-025be31f09ae/content

► Tattersfield Kate. 2023. *How universities have to adapt under the new EU General Data Protection Regulation (GDPR)*. Retrieved 28.4.2023. https://www.fullfabric.com/articles/how-universities-have-to-adapt-under-the-new-eu-general-data-protection-regulation-gdpr

► The Training, Learning and Development Community. 2022. *eLearning accessibility: Busting the top 10 myths*. Retrieved 28.4.2023. https://www.youtube.com/watch?v=Kj8Zk_YtEMo

► Sánchez G. 2015. *Peer Learning and Cooperative Learning: Psychopedagogical Principles and Teaching Methods.* Revista Ensayos Pedagógicos.

► Salt Lake Community College, 2023. *Student ePortfolio examples*. Retrieved 24.4.2023. http://www.slcc.edu/eportfolio/index.aspx

► Sengupta Debadrita. 2019. *What Is An eLearning Simulation And How Do You Create One? Elearning Industry*. Retrieved 27.4.2023. https://elearningindustry.com/create-an-elearning-simulation-one

► School Education Gateway. 2018. *A brief guide to GDPR for schools and teachers.* Retrieved 24.4.2023. https://www.schooleducationgateway.eu/en/pub/resources/tutorials/brief-gdpr-guide-for-schools.htm.

► Stabingis Linas, Šarlauskienė Lina & Čepaitienė Neringa. 2014. *Measures for plagiarism prevention in students' written works: case study of ASU experience*. Procedia-Social and Behavioral Sciences, 110, 689-699.

► Thurber Amie & Bandy Joe. 2018. *Creating Accessible Learning Environments*. Vanderbilt University Center for Teaching. Retrieved 27.4.2023. http://cft.vanderbilt.edu/guides-sub-pages/creating-accessible-learning-environments/

► TGPi. 2023. *Colour Contrast Analyser (CCA)*. Retrieved 27.4.2023. https://developer.paciellogroup.com/color-contrast-checker/

► UNESCO. 2011. *Guidelines for open educational resources (OER) in higher education.* Commonwelth of learning. ISBN 978-1-894975-42-1.

► UNESCO. 2011. *ICTs in Education for people with disabilities*. UNESCO Institute for Information Technologies in Education. ISBN 978-87-7110-183-6.

► University of Washington. 2022. *The AccessComputing project.* Retrieved 23.4.2023. https://www.washington.edu/accesscomputing/20-tips-teaching-accessible-online-course

► Valaitis Ruta, Sword Wendy, Jones Bob, Hodges Andrea. 2005. *Problem-based learning online: perceptions of health science students.* Adv Health Sci Educ Theory Pract. 2005 Aug;10(3):231-52.

► Vanderbild University, 2022. *UDL in practice*. Retrieved 27.4.2023. https://iris.peabody.vanderbilt.edu/module/udl

► Varonen, Mari & Tyrväinen Paula. 2018. *eAMK quality criteria for online implementations.* In G. Ubachs and F. Joosten-driaanse (Eds.), Blended and Online Learning: "Changing the Educational Landscape". Overview of papers on Higher Education for the Future as presented during the Online, Open and Flexible Higher Education Conference in Aarhus, October 2018, 103-112.

► Walden University. 2019. *A Writing Process for Avoiding Plagiarism*. Retrieved 27.4.2023. https://academicguides.waldenu.edu/c.php?g=465757&p=7110846

► Westermark Kathryn. 2020. *Developing Rapport With Students In The Online Setting.* Retrieved on 23.4.2023. https://elearningindustry.com/developing-rapport-with-students-in-online-setting

► Wiley University Services. 2023. *Tips for Designing Live Sessions.* Retrieved 27.4.2023. https://ctl.wiley.com/tips-designing-live-sessions/

► Winqvist Johanna. 2023. *A guide to GDPR for universities.* Microsoft Pulse. Retrieved 24.4.2023. https://pulse.microsoft.com/en/work-productivity-en/education-en/fa2-a-guide-to-gdpr-for-universities/

► University of Bath. 2023. *Learning Design*. Retrieved 27.4.2023. https://teachinghub.bath.ac.uk/learning-design-models/

► University of Denver, 2018. *ePortfolios for Reflection. 7 best practices.* Retrieved 24.4.2023. https://otl.du.edu/wp-content/uploads/2020/02/BestPractices_ePortfoliosforReflection1.pdf

► University of Jyväskylä. 2021. *Privacy Notice for the Moodle learning environment.* Retrieved 6.9.2021. https://www.jyu.fi/en/university/privacy-notice/privacy-notice-for-the-moodle-learning-environment

► University of London. 2023. *Student Guide to GDPR.* Retrieved 28.4.2023. https://london.ac.uk/sites/default/files/governance/gdpr-rights-guide-students.pdf

► University of Michigan. 2023. *Accessibility for online courses*. Retrieved 28.4.2023. https://umich.instructure.com/courses/42496/pages/8-dot-1-accessibility-for-online-courses?module_item_id=380213.

► NSW Government. 2022. *Strategies for student peer assessment.* Retrieved 24.4.2023. https://education.nsw.gov.au/teaching-and-learning/professional-learning/teacher-quality-and-accreditation/strong-start-great-teachers/refining-practice/peer-and-self-assessment-for-students/strategies-for-student-peer-assessment

► Iowa State University. 2023. *Peer assessment.* Retrieved 25.4.2023.

https://www.celt.iastate.edu/teaching/assessment-and-evaluation/peer-assessment/

► University of Tasmania. 2022. *Digital Competence – Providing Tools to Create an Inclusive eLearning Course.* Retrieved 28.4.2023. https://www.teaching-learning.utas.edu.au/content-and-resources/accessibility

► The University of Twente. *FAQ GDPR AND EDUCATION*. Retrieved 28.4.2023. https://www.utwente.nl/en/cyber-safety/privacy/faq-gdpr-index/faq_gdpr_education/

► University of Waterloo. 2022. *Self-Directed Learning: Learning Contracts. Studying How to Apply Chatbots Technology in Higher-Education: First Results and Future Strategies. Retrieved 27.4.2023.* https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/tips-students/self-directed-learning/self-directed-learning-learning-contracts

Annex 1: A course plan template

Cource name:	
Teacher(s):	
Course timetable and extent:	
Learning objectives:	
Group size and method:	
Groups starting level:	
Pedagogical teaching methods:	

Time	Learning objective	Learning content	Method	Learning environment and tools	Operator	Learning material	Work load in parts	Work load	ECTS	Assessment and feedback	Estimate teacher work load
1. week / 1.11.2023	Course orientation	Cource's learning objectives, stude progress, assignment completion and assessment	Independent study, starting lecture, other?	e.g. in class, Moodle section 1, other?	Teacher + group, student independently?	Implementation plans course description and cource progress diagram	e.g. lecture 1 h/ independent studying 1h	1	0,037	no	lecture 1 h, preparations 1 h
							Total workload				