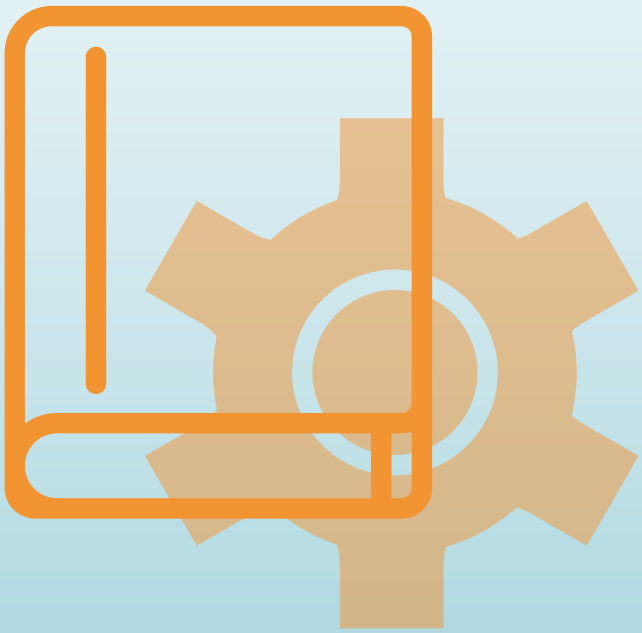
INNOVATION STATION

A new approach towards online and blended education

Guidelines for Teachers

Online and Blended Learning



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1. Introduction

Online learning in the post-covid era

The Guidelines for Teachers on Online and Blended Learning are part of Innovation Station: A New Approach Towards Online and Blended Education. This project is coordinated by the Organising Bureau of European School Student Unions (OBESSU). Innovation Station is a response to the needs and challenges experienced by educators and secondary school students across Europe during the COVID-19 pandemic. The sudden onset of the pandemic forced educators and students to rapidly adapt to an online and blended learning environment. This transition was smoother for some than for others. Most schools, educators, and learners found themselves in a situation where they had to experiment and work with the tools available at the time.

A needs-analysis conducted by OBESSU in November 2020 among 1000 educators and students in Europe showed that educators struggled with the implementation of effective online teaching methods, assessment, and keeping their students engaged. On the learners' side, students reported lower levels of motivation, and an overall decline in mental health with increasing difficulty in maintaining an adequate school-life balance.
By mid-April 2020, 191 countries had closed all their elementary and secondary schools, affecting nearly 1.6 billion children. Some school systems managed to train teachers, introduce distance learning, and establish student support services in less than a week. Others were struggling, limited by a lack of access to technology or expertise (Bryant et al., 2020).

The new learning environment required a high level of flexibility, creativity, and necessary know-how regarding online teaching and learning practices. This led to a greater need for appropriate professional development and teacher training that would help develop the necessary skills for educators to apply innovative teaching practices and navigate new (in many cases, unfamiliar) technology. The online learning environment also required educators across disciplines to engage with the effects and consequences of online and blended learning from a holistic perspective, including aspects like student well-being and e-safety.

Teachers played a leading role in this process, facing different emerging demands during the health crisis. Most educators had to re-plan and adjust education processes, including the modification of methods and curricula, designing materials, and diversifying the media, formats, and platforms used. Additionally, educators had to take part in activities that would ensure the safety of students and their families, including the distribution of food, health products, and school materials. Teachers and school staff faced the demands of providing socio-emotional and mental health support to students and their families - an aspect of their work that has become increasingly important since the start of the pandemic (Cepal and UNESCO, 2020).

At the same time, new visions of learning in an online environment had to be developed quickly. Authorities and schools started to introduce more consistent methods and tools. Schools began implementing new regulations that allowed for the safe use of digital tools. Teachers became more competent in using these digital tools for classroom use.

Following the pandemic, online and blended learning remains a reality across Europe. This may become even more common soon with the continuous development of digital learning tools and, more recently, the increased use of artificial intelligence.

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The Guidelines for Teachers on Online and Blended Learning are a result of Innovation Station and were written after the Exchange Seminar (November 2022) and Staff Training (July 2023) events. These project events convened teachers and students from across Europe to discuss challenges and potential solutions to online and blended learning. The main aim of the guidelines is to preserve and share valuable knowledge on how to foster an online and blended learning environment that is effective and inspiring for both students and teachers. The main aim of the guidelines is to preserve and share valuable information on how to foster an online and blended learning environment that is effective and inspiring for both students and teachers. They comprise all major areas of online and blended learning characteristics, starting with e-safety to course structure, study tips, pedagogy, tools, best practices & ideal scenarios, class management, mental well-being and relations, and self-directed learning to assessment. The guidelines are primarily written for educators that work in online and blended learning environments, but may also be consulted by students, parents, legal guardians, or anyone interested in the subject matter.

The guidelines can be used in a way that is suitable to different individual needs. To make it easier to follow the guidelines, there is a glossary section at the end including some of the specialist terms. Based on their own experiences, the authors aimed to include a wide range of best practices and aspects of online and blended learning. The guidelines are meant to offer support to educators with extensive online and blended teaching experience, as well as to educators who are completely new to the online teaching environment.

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2. E-safety

In this digital age, children are focused on computers and mobile devices from early childhood. It is, therefore, extremely important to teach them how to use these devices properly and appropriately. (Mark and Ratliffe, 2011).

In a broad sense, **e-safety** reflects the safety of all users on the Internet. However, it has an additional meaning when it comes to students, as it implies raising their awareness and educating them about the safe use of online tools.

Online teaching poses security challenges for the entire population, especially when it comes to the safety of students, who represent a particularly vulnerable group. Similarly, to the real world, the virtual world can create situations that cause individuals to become victims or perpetrators of certain socially unacceptable behaviour. The maintenance of students' e-safety during online classes requires concerted and urgent action by everyone, including educational authorities and teachers.

Teachers who work with students in an online environment need specific skills and competencies concerning the additional safety dimension of online practice. It is important to adhere to several ethical principles that ensure effective practices. Promotion and maintenance of e-safety is one of the crucial aspects of this process.

All information, guidelines, and advice about navigating the digital world should be aimed at students in a way that suits them best and through channels most receptive to them. Students should be informed on how to seek help and support.

Students should receive appropriate tools and guidance, including information on how to respond to and, if necessary, report contacts, behaviour, and content that may harm them. Students should be encouraged to use their voices online to support other students.

Schools should create or update their safeguarding policies for children learning from home. Mutual interactions between school staff and students should be transparent and regulated.

Data protection is one of the crucial elements of e-safety guidelines. Keep any personal data you collect for as long as necessary and delete it as soon as possible. This reduces the risk of any personal data breach and follows the expectations of individuals. Limit access to the online tool so that it is only available to the people who are using it. Virtual platforms for online teaching should not be used to share confidential information and personal data unrelated to the teaching process.

When choosing a distance learning tool, it is important to have security guidelines provided to the teachers. Security options of the online tools used by teachers should be checked beforehand. It is necessary to check whether there are appropriate security certificates and whether they have data usage clauses. While this applies to all learning tools, it is essential for video calling and content-sharing apps.

Specific protective measures may include the obligation of the school to post the class schedule on internet platforms, advising children to wear appropriate clothing in front of webcams, and not to connect to their teachers or virtual classrooms from their bedrooms. Students should be advised against using private messaging services for teacher-student communication or asking

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parents for permission for such sessions. Schools should also seek digital security mechanisms to ensure that only authorized individuals have access to online learning platforms.

While conducting online classes or using virtual platforms, any communication against the standards of academic integrity should be prevented. This includes posting inappropriate content that contains threats, insults, profanity, disparaging, discriminatory or harassing statements, forms of violence, etc., as well as posting a file with an inappropriate name.

Students must feel confident that their virtual environment is a safe space. Teachers are encouraged to think about how and in which ways they can ensure that students feel safe on the online channel being used - for example, if lessons deal with topics that are difficult, stigmatising, traumatic, etc.

Responsible communication in the virtual world implies adherence to the written and unwritten rules of good behaviour and communication that are applied in everyday, real life.

Participation in digital communication brings more and more changes to the experience and understanding of privacy. In a world where students are networked, where published content can be copied, changed, forwarded to thousands of others, or become something completely different from what was intended, privacy protection becomes much more than keeping personal data.

Therefore, it is crucial to adhere to the principles related to the subject rights under the European Data Protection Regulation (General Data Protection Regulation (GDPR), 2018). Children deserve specific protection concerning their personal data, as they may be less aware of the risks, consequences, and safeguards concerning their rights to the processing of personal data (Recital 38 special protection of children's personal data). If the personal data of a minor is processed, communication to the student should be in clear and plain language such that the student can easily understand it.

GDPR includes many principles, but we have noted Below the ones that every school should adhere to:

Article 15 of the GDPR indicates the right of every student to access their personal information that the school processes and details about the type of processing.

Article 16 refers to the right to rectification - the right to request that information is corrected if it is inaccurate.

Article 17 refers to the right to erasure ('right to be forgotten') - the right to request that a student's information is removed/erased. Depending on the circumstances, the school may or may not be obliged to action this request.

Article 21 refers to the right to object - the right to object to the processing of personal data.

Every school should take appropriate measures to avoid the disclosure of any personal data of a minor to an unauthorised person. When making decisions, the welfare of students should be considered, especially if the right of access is exercised on behalf of the student.

Schools should inform all stakeholders about online safety policies and provide resources and information about digital safety to support parents and carers in creating a positive experience when using the internet.

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Schools should inform all students about the expected code of conduct and manner of communication on digital platforms, just as it would be expected for face-to-face behaviour.

Also, schools should promote and monitor the good behaviour of students. It is crucial to prevent cyberbullying. **Cyberbullying** is a type of aggressive behaviour manifested by threats, humiliation, intimidation, or abuse of a person by one or more individuals via the internet, mobile phone, and other communication devices.

What are the ways of preventing cyberbullying in the online environment?

Teachers could familiarise themselves with online activities and terminology, including social media, blogs, etc. During lessons, especially form time, students and teachers should talk about electronic violence, including the importance and characteristics of true friendship, and share their experiences. As teachers, point out the importance of empathy: explain what kind of behaviour is desirable and help students understand that irresponsible behaviour towards others, which may be amusing to them, bothers other students.

Students need to be aware of their rights and responsibilities in the online world. Rights do not exist without responsibilities, which include:

- Integrity and honesty (sense of fairness, justice, and respect for the dignity and rights of other students).
- Developing a sense of duty (a commitment to fulfill, to the best of one's abilities, the responsibilities, duties, or obligations that are attached to the roles or positions which one occupies within the group).
- Thinking about the consequences of one's own and others' actions.
- Readiness to accept the consequences of actions.
- Critical and independent thinking (the capacity to understand and appreciate different perspectives and views).
- Compassion for others.
- Developing self-control (controlling and regulating one's own emotions and feelings, to facilitate more effective and appropriate communication and cooperation with others)
- Willingness to give up activities that may be harmful (reducing or preventing aggression and negativity and creating an environment in which people feel free to express their differing opinions and concerns without fear of reprisal).
- Willingness to report harmful activity.
- Willingness to help if someone is threatened by someone else's behaviour.

E-SAFETY POLICY

The development of e-safety policies is one of the ways to promote healthy habits related to technology. An e-safety policy should help to ensure safe and appropriate usage as well as emphasise the value of balance between digital and non-digital forms of research, learning, and communication.

The requirement to ensure that students and young people can use the internet and related communication technologies appropriately and safely is relevant to every academic institution.

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All schools should take appropriate technical and organisational security measures (including physical, electronic, and procedural measures) to safeguard students' personal data from unauthorised access, unlawful use, intervention, modification, or disclosure under the requirements of the policy.

E-safety rules:

- Students are expected to use their school email address for school-related purposes only.
- Students are prohibited from giving their passwords and digital identities to other students and users.
- Students' data can only be used with prior approval.
- Students will not deliberately browse, download, upload or forward material that could be considered offensive or illegal. If they accidentally come across such material, they will report it (confidentially) to a teacher immediately.
- Students will always respect the privacy and ownership of others' online work.
- Respect the copyright related to digital content.
- All students should sign a statement on data confidentiality and adhere to ethical principles when using ICT.
- Students understand that they should never give personal or private information about themselves or other students to people outside the school's community.
- Students will only use their devices to take pictures or videos of other students and teachers under teacher supervision and with permission. Any images students take will be stored by the school and used for school purposes only following school policy and will not be distributed outside the school network without permission.

It is also necessary to define what happens in case of non-compliance with the rules, how the school sanctions non-compliance with the rules, and to whom any behaviour that is not in accordance with the policy is reported. This is something that can be developed individually by every school. As the policy prioritises students' privacy and data management, every school should only approve apps and software to be used by students for school-related tasks.

In conclusion, it is essential that the principles of e-safety are respected by all participants in the educational process. The adoption of unambiguous policies will facilitate this segment because then there will be no doubts about which rules should be respected in online and blended learning. Of course, in the entire process, the needs of the students should be considered first and foremost to ensure their safety. Principles, above all, ethical ones, should be at the core of e-safety policies and, therefore, it is necessary to consult the General Data Protection Regulation as a starting point when adopting e-safety policies.

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3. Course structure

The inclusion of information-communication technologies in the learning and teaching process took place in all sectors of education. The nature of face-to-face teaching has changed, and the extremely rapid growth of online courses has been enabled. These technologies offer new opportunities and challenges for both teachers and students.

Online classrooms enable easy access to information and apply innovative methods for content visualisation and research. There is data collection and storage in every online classroom with new ways of communicating about the obtained electronic teaching content provided.

The fundamental role of the teacher in an online environment does not change. It is still expected for teachers to plan and create their teaching process in a way that enables students to actively engage with the content, stimulate higher-order cognitive processes, and achieve the educational goals defined by the curricula. Teachers should still carry out activities that are in accordance with the curricula and evaluate the achievements of their students. What is specific to virtual learning is the medium through which this whole process takes place.

Digital learning content should ultimately be compatible with cognitive learning processes. The human brain does not develop as fast as technology and its learning principles have not changed much. Therefore, when choosing multimedia content, teachers should consider the principles of the cognitive load so as not to overburden students and, instead of making learning easier, make it harder for them.

Students should be at the centre of the teaching process, which means that the central focus should not be the teacher's transfer of knowledge, but rather, the student's construction of knowledge. Student-oriented (constructivist) implies an active process in which the students construct their knowledge using activities (both cognitive and physical) and learn in their own way based on their experiences and individual abilities and preferences.

Several problems in online education relate to poor Internet connection and technology. Teachers should consider students' technical prerequisites when planning and creating lessons. In this context, the teacher must approach their students with understanding and friendliness.

For teachers to be able to plan and conduct their online teaching, it is beneficial that they are skilled in the use of information and communication technology, familiar with the available tools, and understand in which situations to use them. In addition, their role in distance learning is multifaceted:

- **Pedagogical** (clearly defined goals, flexibility, objectivity, focus on the relevant).
- **Social** (correct communication with students, promotion of interactivity).
- **Managemental** (availability, patience, feeling for possible student overload).
- **Technical** (introducing students to technology, helping in case of technical problems, creating clear instructions related to the use of technological solutions).

Designing an online course that will meet the needs of everyone involved in the teaching process is an extremely complex task. If we want to improve the entire process, we need to meet several criteria. Otherwise, the whole process will be meaningless and even counterproductive.

While designing an online course, every teacher needs to address one crucial question:

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How can we encourage the participation and cooperation of the students?

Teachers must be aware and mindful that students have individual needs and different personalities, as well as diverse methods and ways of learning. Meeting the different needs of students in an online environment is the hardest task for most teachers.

Besides that, there are more important questions that every teacher needs to answer:

1. Are the outcomes of the lessons defined by the proposed curricula?
2. What are the educational goals? What do we want students to learn and what competencies do we want to encourage?
3. Is the course developed for different standard levels? Are the criteria for evaluating success developed for multiple levels?
4. What strategies do we have to use to achieve our goals? Which strategies work best for our students?
5. What is the role of students in their learning process?
6. Is student progress monitored in a variety of ways using various assessment methods?

Before we decide which activities to choose for teaching specific knowledge and competencies, we should ask ourselves the following question: How do some strategies affect student motivation and how do they affect certain learning styles?

The type of strategies used in different lectures and lessons will depend on the subject and the specific course. When designing a course, we need to consider the role of teachers and students in the whole process.

According to Sadiku, Adebo, and Musa, seven principles should be followed if we want online teaching to be successful: (1) encourage student participation, (2) encourage student cooperation, (3) encourage active learning, (4) give prompt feedback, (5) emphasise time on task, (6) communicate high expectations, (7) respect diverse talents and ways of learning (Adebo, 2018).

Online teaching allows teachers to adapt learning opportunities in several alternative ways. Students must also adjust to different online courses, depending on the subject and its content. Sometimes, there are expectations to learn as much as possible without the usual social connections and learning environment.

Designing a course can and should be(come) a team effort. As Lucy Crehan explains, the “habit” of collaborative lesson planning, as well as peer observation and discussion to improve teaching techniques is common in countries like Finland, Japan, Singapore, and China - countries that occupy top spots in the PISA ranking (Crehan, 2016). Given that every learning management system is designed to support multiple users with different roles, collaboration is inherent and integral.

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Is it mandatory to use an LMS when talking about distance education or blended learning?

There are various definitions of blended learning. The one by the Christensen Institute describes blended learning as "a formal education program in which a student learns:

1. at least in part through online learning, with some element of student control over time, place, path, and/or pace,
2. at least in part in a supervised brick-and-mortar location away from home,
3. and the modalities along each student's learning path within a course or subject that connected to provide an integrated learning experience" (Blended learning definitions 2018).

As defined, blended learning is neither face-to-face instruction supplemented with aspects of distance learning, nor vice versa. Teachers (and students too) can have a better-blended learning experience and reap the benefits of using it if they integrate their favourite tools into the lessons they deliver through the school.

Collaboration in lesson planning can diminish the tools a student has to deal with. Teamwork and the use (at least at school levels) of a Learning Management System can solve major problems (often presented as disadvantages) in distance/blended learning.

Planning online learning should include the selection and organisation of teaching methods, activities, and ways to monitor or evaluate the learning outcomes. Before developing the content for the assigned lessons and course, teachers must review the proposed learning objectives. The needs of students are crucial in the online planning process. As teachers, we need to aim for the development of skills that are relevant to our students' future. The designing of activities should be aligned with the needs of students to explore and construct their understanding of the course.

Because of the complexity of online courses and sometimes even the lack of communication, it is beneficial to divide content and outcomes into must-know (concepts and content that every student needs to know) and good-to-know (concepts and content that can develop a better understanding of the subject or add interest for the learner) categories.

Online learning has many advantages regarding the accessibility of the material and increases the quality of teaching and educational content if used properly. A teacher who is good at facilitating the online learning process is motivated to improve their knowledge and skills and makes use of existing resources. They actively seek answers to questions or problems, creating diverse content and opportunities for learning.

Therefore, when planning activities for the course, teachers should create flexible learning tasks. An online environment can create certain obstacles, so sometimes students can progress only at their own pace and must wait for feedback from their teachers.

We must be able to think outside the standard framework to create possible solutions that help meet the new needs of our students. In some cases, this might even help us generate new solutions to previously intractable problems.

The moment we determine the learning outcomes that our students need to master (as well as the methods and techniques necessary to achieve them), it is crucial that we create resources to be used in our online course. This includes the content, material, sources, and the format in

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which the lesson will be presented. If a particular format is successful, it can later be accommodated and used when mastering new learning outcomes.

In online courses, teachers provide students with content and tools that will help them achieve educational goals and learning outcomes with the expectation that their students will actually use them. Therefore, teachers are required to present their lesson content in a way that will achieve the educational goals and meet the learning outcomes specified by the curricula. Teachers must methodically and didactically adapt content for their students as well as shape this content to be as appealing to learners as possible. Students should feel encouraged to conduct further research and learning. On the other hand, students are expected to actively engage in the content and complete tasks by following the teacher's instructions.

Teachers should choose to teach content and go over material according to the learning goals of each topic. It is necessary to consider any interconnectivity between the contents of one subject and the contents of another. In the process of planning and selecting topics, any correlation between subjects should come to the fore.

When developing courses and materials for online learning, there are two possibilities. If the appropriate content already exists, teachers should integrate the content taken from different sources and adapt it to their needs. The other option is to prepare the entire course from scratch.

The methods that work best in remote learning environments will vary by discipline and available technology. The course should be realistic and achievable; it should correspond to the conditions in which it will be implemented and the capacities of the students who will directly participate in it.

It is highly recommended that teachers set clear guidelines and expectations for student activities. Students should be aided in what is expected of them, but they should also be encouraged to ask questions. Teachers should try to assist students in managing their learning by setting personal goals and monitoring progress.

In conclusion, organising quality online courses without available online resources is a complex and difficult task. Teachers often create their own materials that help them in this process, but it would certainly be better if they could use some unified and suitable materials. During the COVID-19 pandemic, these types of shared materials were created in several countries, but they did not always meet the needs of all teachers. Therefore, if possible, teachers should use the opportunity to exchange their materials, compare course structures and find the best techniques to help them achieve their educational goals. Every course structure should first and foremost encourage the participation and cooperation of all students, though teachers should also be mindful and accommodating of the individual needs of their students.

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4. Study tips and techniques for the online environment

Retrieval Practice for teachers

Retrieval practice (RP) is a universal and simple learning strategy in which calling information to the mind boosts learning. This technique entails deliberately recalling information and thus, strengthens both the memory trace and enhances long-term memory. Retrieval practice is not "cold calling." It does not mean nominating students to answer questions. Teachers must make sure that all students are involved in equal measures and that this activity is stress-free.

It is important to remember that RP is not an assessment tool. It is not necessary to devote a lot of time to it: five minutes at the start of a class would be enough. The most important aspect of RP is regularity; it is most effective to create a habit out of doing this. Feedback should be communicated using positive language and it is a good idea to give students time and space to self-correct. Keep in mind that to retrieve anything from memory, students need to have their books closed while engaging in retrieval practice activities.

Retrieval practice can be incorporated into any class on a regular basis by exercising three techniques:

- Spacing: Dividing study time into multiple sessions spread over a period.
- Interleaving: alternating examples from one category with examples from other categories and mixing related topics. This challenges students to compare, contrast or distinguish between topics.
- Feedback-driven-metacognition: adjusting one's learning techniques based on constructive feedback. This means drawing conclusions on the effectiveness of chosen learning techniques and strategies based on feedback.

Tips for the classroom:

- Brain dump: Students write down (in a file/chat/group chat) three new items they learnt from the previous lesson(s), eg. new words, dates, definitions, or compare two items that were covered during class.
- 5-questions: Create a low-stakes quiz based on the material through chat, Kahoot, Quizizz, Plickers, Poll Everywhere, etc.
- Basket questions: A collection of questions for every student, e.g.prepared in www.wheeldecide.com.
- Flashcards: Including items and pieces of information students need to retrieve. Show them at random and let your students react (without nominating students).
- Metacognition: Letting your students answer some simple questions like:
    - What have you learnt?
    - Did you have any problems learning?
    - Why?
    - What can you change in your studying methods to improve it?

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Using these simple and short RP strategies will improve the learning process by strengthening students' memory. Moreover, when students ask themselves metacognitive questions, they understand their learning process better and they take more responsibility for it.

Online studying requires special routines and habits. It is advisable to provide students with some useful study tips:

General:

1. Create a study routine to help you stay focused and make the most of your time.
2. Choose a quiet and comfortable place to study.
3. Avoid distractions: turn off your mobile phone and close other pages on your computer.
4. Use Pomodoro Technique which involves breaking work into intervals, typically 25 minutes in length, separated by short breaks.
5. Take breaks to avoid burnout and refresh your mind.
6. Practice self-care because having enough sleep, regular exercise, a good diet, and overall mental wellness help you study effectively.
7. Keep a diary of your assignments, presentations, exams, etc.
8. Set out your learning goals.
9. Revise study techniques and ways of notetaking.
10. Participate in online discussions and stay engaged.
11. Seek help with your assignments or in case of other problems.

Tips for active studying:

1. Take notes using one of the following methods: mind maps, visual notes, Cornell notes, diagrams, text mapping, etc.
2. Try to summarise texts rather than simply reading them.
3. Try to make connections between new information and what you already know about the topic.
4. Link what you are learning to real-life situations.
5. Teach someone else about what you are studying.
6. Test yourself with questions, mini-quizzes, and flashcards.
7. Close your books and try to recall information from memory.
8. Analyse your teachers' feedback and monitor or adjust your learning methods to improve your learning process.

The effectiveness of the learning process depends not only on the methods and strategies that are used by teachers in class but also on HOW students' study. Help your students realise what it means to study well and give them advice on how to organise their work at home as well as which learning techniques to use.

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5. Pedagogy

As we already know from the introduction, the COVID-19 pandemic has made us question many aspects of modern education. A direct transfer of knowledge, which often happens during regular classes (in the form of lectures), turned out to be useless in the online and blended learning environment.

The key issue is motivating and engaging students. This requires more student-centred teaching methods which allow students to conduct their own research on a given topic and make decisions, often by working in groups. By participating in this process, students develop **transversal competencies**, e.g., the 4 C's: communication, cooperation, creativity, and critical thinking.

Another important issue is making students take greater ownership of the learning process, which means feeling more responsible for it.

Another important issue is encouraging students to take greater ownership of and responsibility for their learning process. Students need to understand that their progress depends not only on the teacher but also on their understanding of how they, as students, can improve their learning process. In turn, this requires the development of students' metacognitive skills so that they can make their learning more self-directed and self-paced.

Metacognition is one's awareness and control over their thinking of learning. This can be further divided into metacognitive knowledge and metacognitive regulation. Metacognitive knowledge comprises:

1. Declarative knowledge: knowledge about how the brain and memory work, knowledge of different learning methods and strategies.
2. Procedural knowledge: Knowledge about how to implement different learning strategies.
3. Conditional knowledge: Knowing when and why we need to use different strategies.

Metacognitive regulation is the ability to plan, monitor, and evaluate one's own learning process. For this reason, it is recommended to draw up one's own individual study plan and not forget to set out one's own goals.

Since distance learning is a fairly new phenomenon, some students may not have enough knowledge of learning tools and strategies. It is recommended that they are familiarised with these tools. Take time at the beginning of the course to go over the most useful learning techniques. Moreover, it is a good idea to go back to them during the course and remind students why they are worth implementing.

The pandemic has shown that there is a greater need for teachers to become facilitators of the learning process. Teachers are there to guide, motivate, and support their students. The first and most obvious way to do this is through assessment which is an integral part of teaching. Giving instructional, supportive, and motivating feedback should be the first priority in formative assessments. When assessing an assignment in the online environment, it is important to focus on what has been done successfully by a student. This boosts the student's confidence and fosters good relations, which is especially vital in the online environment. Secondly, it is advisable to point out areas in the assignment that need improvement and suggest the best strategy to do

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this by referring to the assignment criteria. Thirdly, it is recommended that the feedback includes information on how the student can improve their work (see the Assessment section).

The change in roles of teachers and students is caused by an even greater need for mutual respect and positive relationships in the online learning environment. Working on these relationships can also take place during online classes. Keeping in mind the needs of your students will help you establish a positive rapport. It is worth asking them about their opinions on tasks, methods, and topics covered in class. Providing positive and motivating feedback also plays an essential role in maintaining good relationships with students. It is also a good idea to establish some form of contact between the teacher and their students for different emergencies so that your students know they can count on you. Finally, why not have a short talk with your students or play an online game from time to time?

In summary, the pandemic has shown us that modern education is not about putting facts down on paper and memorising them, but rather, facilitating learning through personal engagement, competency development, the use of technology, and assisted teaching methods. With all this said teachers should think about how to implement some learner-oriented methods in their online or blended-learning practice.

Tips for the classroom:

- Flipped Classroom methodology is about assigning students some material to study before class e.g., study links, online presentations, websites, etc. Students get engaged and study at their own pace and come to the class ready to delve deeper into the subject.
- Problem-based and Inquiry-based approaches in which students learn about a subject by trying to solve a real-life, open-ended problem. Students first identify the problem, then search for solutions and try to solve the problem.
- Group work (e.g., in breakout rooms) is probably the easiest and the most universal tool to engage your students and foster positive social interaction during online and blended classes.
- Project work and Webquests in groups.
- Break down your lessons to make them shorter and more digestible than normal.
- Use **gamification** and online quizzes to enliven your teaching.

Undoubtedly, online, and blended learning pedagogy requires a shift in focus from a teacher-centred approach to a learner-centred approach. It is important to make sure students realise that they have a big role to play in their learning process and development of metacognitive skills.

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Staff TeachThought. (2022, January 16). 5 strategies for teaching students to use metacognition. TeachThought.
https://www.teachthought.com/learning/strategies-metacognition/

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6. Tools

Effective communication is the key to successful teaching and learning, both in physical and virtual classroom environments. Communication platforms facilitate this; they enable communication with larger groups through video conferencing, instant messaging, audio calls, virtual rooms, and more, with any device and from anywhere. Most schools cannot use these tools, as this decision was often made by state authorities. They usually used one of the following: MS Teams, Google Classroom, Edmodo, or Class Dojo.

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Here are the most used platforms, applications, and digital tools in distant learning:

1. **Kahoot!** is an online, game-based learning platform that allows teachers to create quizzes. It can be used for formative assessment (there is the possibility to create a report on students' answers) or a fun review activity.
2. **Edpuzzle** is a video-based learning platform that allows teachers to add interactive elements to existing videos such as quizzes, annotations, and voiceovers. It provides teachers with data on student understanding.
3. **Flinga** is an online bulletin board that allows teachers to create collaborative boards where students can share ideas, links, images, and videos. It can be used for brainstorming, group projects, or a digital portfolio.
4. **Nearpod** is an interactive presentation tool that allows teachers to create engaging lessons with multimedia content such as videos, quizzes, and polls. It enables real-time feedback and collaboration and can be accessed on any device.
5. **Flip** (earlier name Flipgrid) is a video discussion platform that allows teachers to create topics and prompts for students to respond by using short video responses. It enables students to showcase their communication and presentation skills and facilitates peer-to-peer feedback.
6. **Socrative** is a formative assessment tool that enables teachers to create quizzes and surveys that students can access on any device.
7. **Loom** is a video recording and sharing tool that allows teachers to create and share instructional videos with their students. It includes features such as screen recording, webcam recording, and video editing tools.
8. **Mentimeter** is a presentation tool that includes live polls, quizzes, and word clouds to promote student participation.
9. **Quizlet** is a study and learning platform that enables teachers to create and share digital flashcards, quizzes, and study games. It can be accessed on any device.
10. **Minecraft: Education Edition** is a game-based learning platform that enables teachers to create virtual worlds including lesson plans, classroom management tools, and learning analytics.
11. **Canva** is a graphic design platform that enables teachers to create visual content such as posters, infographics, and presentations. It features templates, design elements, and collaboration tools for creating content.
12. **ScreenPal** is a screen recording and video editing tool that allows teachers to create and share instructional videos with their students. It includes features such as webcam recording, video editing, and cloud-based storage for easy sharing.
13. **Wardwall** is an online platform that allows teachers to create interactive educational resources such as games, quizzes, and puzzles.
14. **Chat GPT** is an AI **deep learning model** that uses a large amount of data to answer questions or prompts. It can be used to generate responses on many topics and subjects. As educators, we also need to bear in mind the potential risks involved in using this, e.g., in terms of student honesty and professional integrity.

Working online or in blended learning mode nowadays offers educators a wide choice of digital tools, platforms, and programs. It is impossible to list them all, but it is advisable that teachers try some of these tools, as they can facilitate the learning process and increase students' motivation.

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7. Best practices and ideal scenarios

This section is dedicated to introducing a selection of best practices. Some of the examples and ideal scenarios are subject specific, others might be more general and can be adapted.

EU repositories

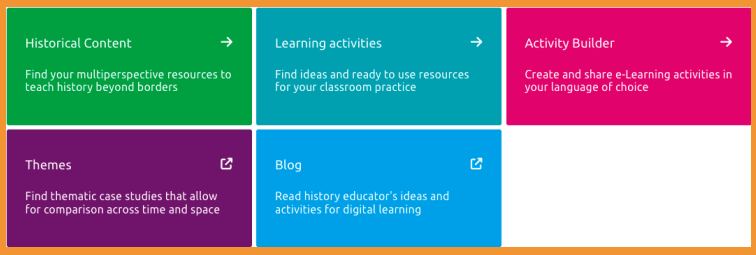
Europeana is an online collection of 'Europe's digital cultural heritage' including books, art, films, and music. It is an umbrella site of European cultural institutions. The collection is organised according to collections and stories:

Collections
Explore our collection by theme, topic, century, and organisation.

Stories
Explore cultural heritage stories in online exhibitions and blogs

Scientix is a repository of science related themes, activities, partnerships, professional training and many more items linked to STEM and STEAM subjects.

Historiana provides historical content, learning activities and an e-learning activity builder.



Eurogeo is the website of the European Association of Geographers which is involved in various publications, projects, conferences, and other activities with both a European but also global outlook.

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The European Schoolnet is a network of European Ministries of Education and aims at providing resources such as webinars, publications, and training with a focus on digital education. The most recent annual report and the 2023 work programme can be found ***here***. Among many useful publications, the network has published ***New guidelines on online learning and teaching***. Furthermore, there is a ***STEM Discovery Campaign 2023*** which brings together various organisations and programmes with a focus on STEM education.

The ***European Digital Education Hub*** is part of the ***European Education Area***. This is a comprehensive repository focusing on ***teacher training***, policy papers, and frameworks related to online and ***digital teaching and learning***.

Cambridge University provides a repository for digital tools in language learning.

New Vision For Public Schools offers free, open-source curriculum materials by and for teachers of different subjects, including maths, social studies, science, literacy routines and ELA.

Not only does it offer instructional materials, but it also includes:

- Instructional guidance around the use of activities, such as group learning routines.
- Pacing calendar to guide your daily classroom decisions.
- Formative and summative assessment tools that offer students and teachers feedback on their progress.
- Materials for supporting students learning English as a new language and students with disabilities.

The Reading Like a Historian curriculum teaches students how to investigate historical questions by employing reading strategies such as sourcing, contextualising, corroborating, and close reading. Instead of memorising historical facts, students evaluate the trustworthiness of multiple perspectives on historical issues and learn to make historical claims backed by documentary evidence. Each lesson revolves around a central historical question and features a set of primary documents designed for groups of students with a range of reading skills. There are three main sections - Intro material, U.S. History and World History.

Although most of the lessons here are used by history teachers, there is plenty of material that can be used by teachers of civic education and sociology.

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TEDEd	***TEDEd*** provides curated content that includes video-based lessons organised by age and subject, video series organised by topic, and blogs. Lessons are self-paced and pre-designed and cover most of the subjects. Another great thing about these online resources is that teachers can create lessons around any TED-Ed Animation, TED talk or YouTube video. Teachers can also search for and select a video and add interactive questions, discussion topics and more. Lessons can be shared with students online, and their progress can be easily tracked.
scoilnet	***Scoilnet*** is the Department of Education's official portal for Irish education that contains a database of over 24,000+ online resources, including websites, quizzes, lesson plans, notes, video/audio, games, and other multimedia. Teachers can access their resources from the blue search box at the top of every page. Scoilnet has been developed as a support for teachers at both primary and post-primary levels. It also provides teachers with the option to share and upload their own teaching and learning resources.
OER PROJECT	***OER*** Project is an online educational resource aimed at history and social studies teachers, but with concepts that can be used by other teachers. It offers course guides and course plans, practice progression placemats, various teaching guides, and more—all designed to help teachers. It has all the guides, graphic organisers, and tools for the teachers, with the courses developed for the whole school year.
OAK NATIONAL ACADEMY	***Oak National Academy*** is a free educational online resource that provides lessons for different subjects, including languages, biology, chemistry, history, geography, computing, etc. What makes this online resource great is the variety of subjects and the curriculum for different levels - from primary to the end of high school.

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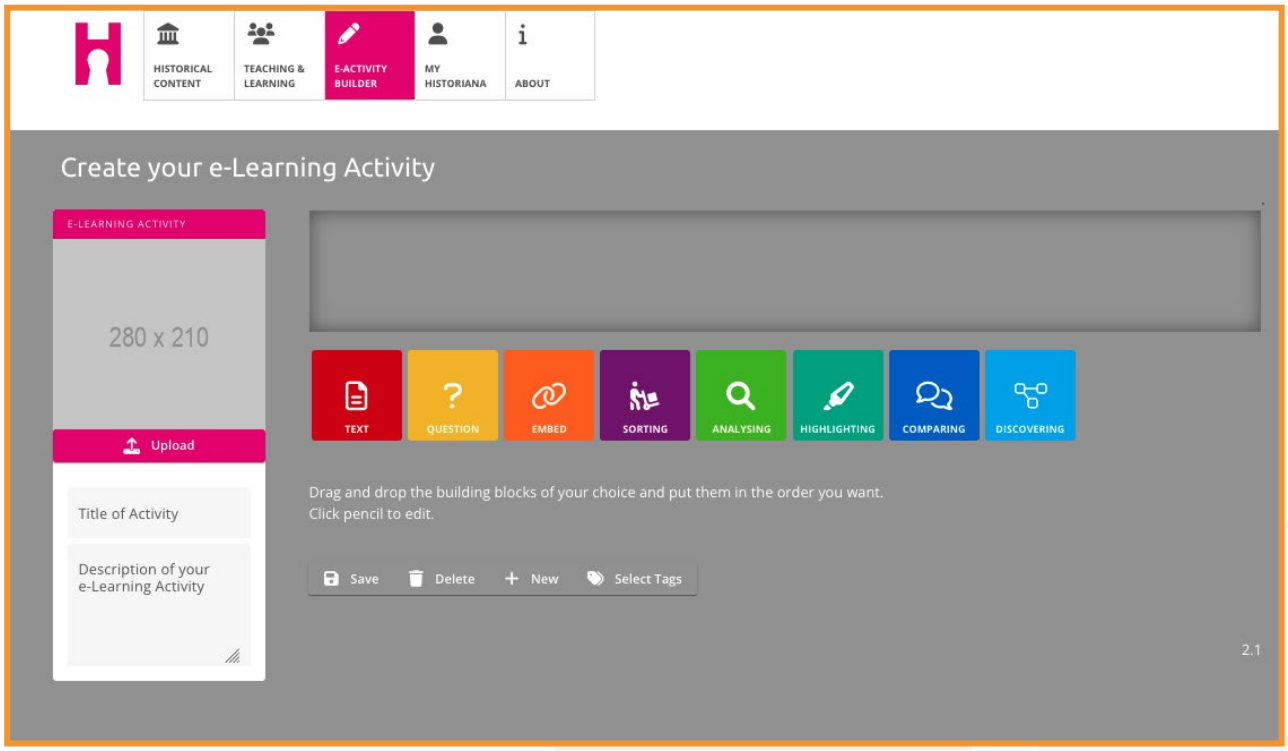
Best practices - History and citizenship education

Historiana provides ready-made **e-learning activities** as well as an **e-activity builder** which allows teachers to create their own individualised e-learning activities. It consists of different building blocks and allows the teacher to share activities with their students, monitor their progress and provide feedback.



Euroclio has produced a **webinar** with detailed instructions and examples of how the e-activity builder can be used.

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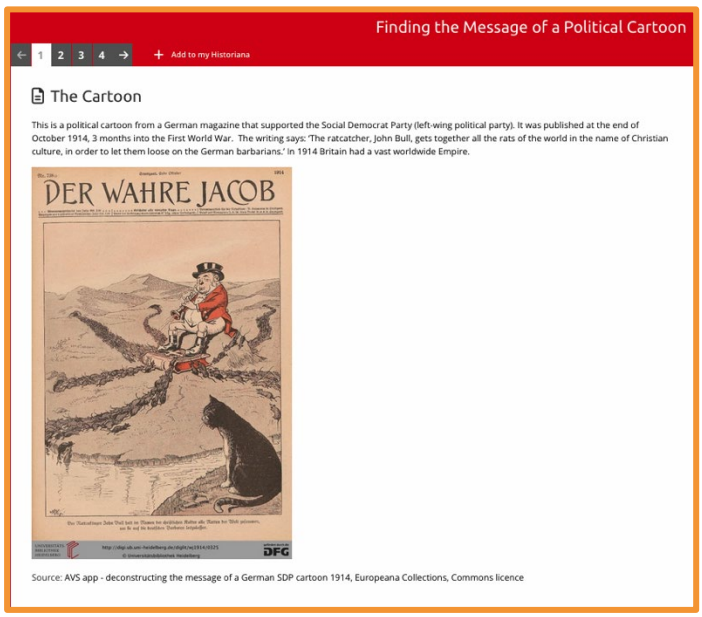
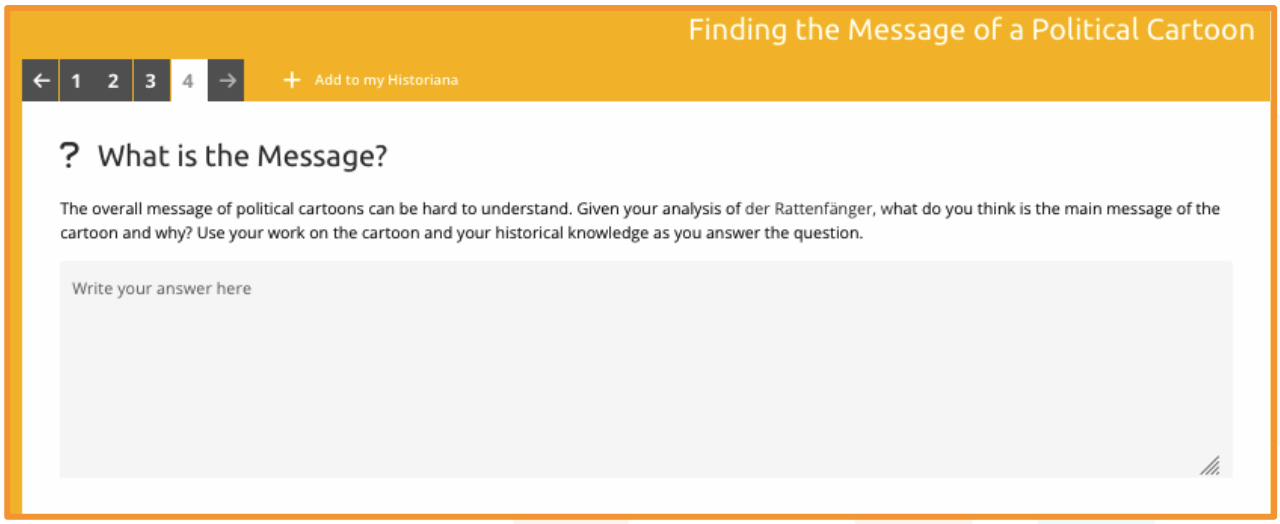


This is an **example** of an e-learning activity on Historiana showing the first and last slide.



Here you can see how the teacher can review the answers provided by the students:

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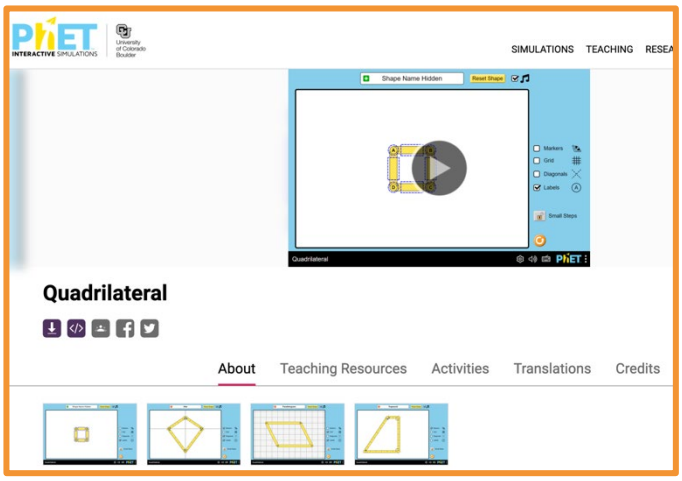
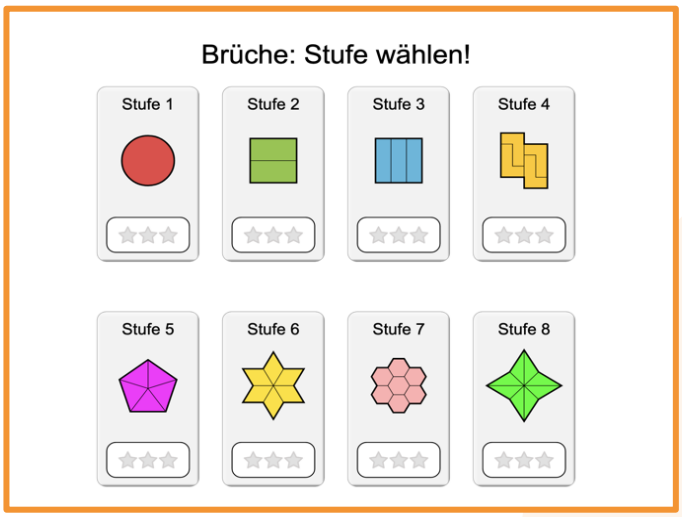
Mathematics



Below you can find one example from the **OpenTeach Project** for mathematics. The project offers digital teaching activities created by teachers in different languages covering a variety of topics. One such example for **interactive simulations** is shown below.



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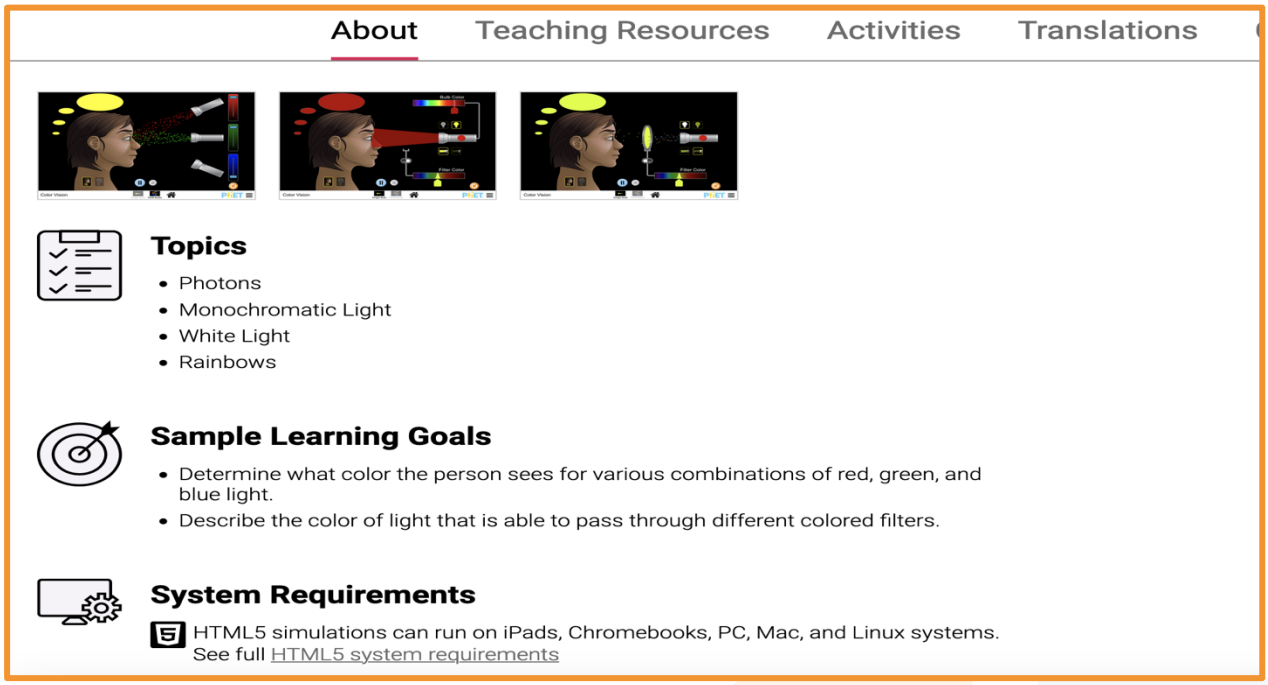
Natural Sciences



The University of Colorado Boulder provides on its **website** teaching resources, including simulations for physics, biology, chemistry, earth sciences, and mathematics. Below is an example of a teaching activity on colour vision.

Languages

Google Earth is ideal to design activities or projects on trips around the world. For example, students can choose places and prepare an itinerary and can take the role of tourist guides.

Vocaroo is a voice recording service. For example, in a language class, students record their reviews/impressions of short films and upload them on Padlet. As a next step, the students can practise peer review and provide feedback on Padlet.

Book Creator is an application which can also be used in other subjects. It allows for interactive teaching and learning. The application includes access to Canva, Google maps and other applications. For example, students can use this app to prepare a portfolio on an artist. The task was to describe the artist's work and thus enhance and practise subject-relevant vocabulary.

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8. Classroom Management

Netiquette

Working in the online environment requires special rules of conduct. Although our students spend a lot of time online, we cannot assume they know how to react appropriately to every situation they encounter. Thus, it is advisable to discuss netiquette guidelines with your students and draw up a set of rules together.

Tips for classes:

1. Stick to the instructions and keep to the deadlines. Always read the instructions and rubrics carefully before you upload an assignment. Respect other peoples' time and data limits. Make your contribution valuable.
2. Be yourself - do not assume any false identities. Take responsibility for your posts. Do not pretend to be someone you are not. Do not copy/paste, as plagiarism is a copyright infringement. Remember that your contribution is more meaningful if it is truly yours!
3. Mind your language and your manners-, do not swear or use slang. Never share anything embarrassing, illegal, or inappropriate. Try your best to use spelling, grammar, and punctuation correctly. Keep your tone and style appropriate to the task. You are what you write.
4. Be respectful - keep disagreements healthy. Make your criticism constructive, useful, and helpful. Respect people's privacy, and do not share any personal information you find about your partners on social media.
5. Reserve your judgement - making mistakes is a natural stage of learning, especially when you are not fluent enough to express yourself properly. Nobody's perfect.
6. Be kind - do not yell at people and do not write in upper case as it may be perceived as rude. Aggression and hostility will not be tolerated.

Language to use when agreeing with or showing understanding of a point:

- I agree with you on that point.
- That's a fair suggestion.
- So what you're saying is that you...
- In other words, you feel that...
- You have a strong point there.
- I think we can both agree that...
- I don't see any problem with/harm in that.

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Language to use when objecting or disagreeing with a point:

- I understand where you're coming from; however, ...
- I'm prepared to compromise, but...
- The way I look at it...
- The way I see things...
- If you look at it from my point of view...
- I'm afraid I had something different in mind.
- That's not exactly how I look at it.
- From my perspective...
- I'd have to disagree with you there.
- I'm afraid that doesn't work for me.
- Is that your best offer?

As is the case with any community, in an online learning environment, we need a code of conduct to ensure the maintenance of respectful relations. Since this form of learning is new, let us not forget that social norms may not be taken for granted. That is why it is important to establish or propose netiquette rules to students.

References:

Connected learning - implementing international and intercultural online student collaboration, focused on 21st Century skills. CONNECTED LEARNING - IMPLEMENTING INTERNATIONAL AND INTERCULTURAL ONLINE STUDENT COLLABORATION, FOCUSED ON 21ST CENTURY SKILLS. (n.d.).
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9. Mental well-being and relations

Though we all hope the pandemic will never occur again, we must learn from this experience and draw conclusions for similar events. After all, the pandemic has proven that it is possible to work from home. Some people are still working in hybrid or blended modes. There are far more possibilities to study online these days, so it is important to keep the following advice in mind.

Tips for classes:

1. Establish a routine; let your classes be predictable with regular breaks and leisure activities. Remind your students of upcoming assignments and tests.
2. Create a supportive learning environment with supportive feedback and acknowledge your students' accomplishments (see the Assessment section).
3. Encourage collaboration and peer support.
4. Make students aware that they all have a role to play in establishing positive relations with their peers and teachers by adopting a respectful communication style.
5. Check-in regularly to see if your students are coping with the demands of online work.
6. Provide information on mental health resources: services and hotlines.
7. Encourage students to seek help if they need support. If the matter is serious, inform parents and a school counsellor.
8. Foster social connections and create opportunities to connect socially through virtual groups, forums, and chats (allowed by school safety policies).
9. Be flexible and find solutions to any problems, especially those linked to assignments and assessments. Offer additional tasks and alternative forms of assessment.
10. Align classroom management with the e-safety policy.
11. Use official school communication tools and be sure to directly communicate with parents, guardians, and school counsellors.

There is no denying that effective learning also depends on a positive atmosphere in class and the mental well-being of students and teachers. Online learning can often be isolating so it is very important to focus on mental well-being. For this reason, it is vital to try to implement at least some of the above rules into practice.

Creating extra online space for social interaction and support

Distance learning via virtual channels lacks a significant portion of non-verbal communication, which hinders the seamless exchange of emotions. This obstacle poses challenges to effective communication among students and teachers in the realm of distance learning.

Educational institutions serve as an exercise ground for cognitive, emotional, and psychosocial development. As navigating online or blended education can be difficult, children and young people require extra support from their schools. The main goal is to create a safe space that preserves the mental and overall health of children.

Anxiety towards changing life habits results in the presence of fear and uncertainty which can lead to greater anxiety and changes in cognitive functioning. With schools closed and free-time activities limited during the pandemic, social interactions between students drastically

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decreased. This can be a risk factor for the psychological health of children and adolescents, as peer relationships play a key role in their development.

Students should learn how to deal with stress and crises. It is recommended that schools cover topics such as stress and physical reactions to stress. These topics are important because we need to teach our students about stress and offer them ways to release it through physical activity and stress-relieving techniques (such as breathing exercises).

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10. Self-Directed Learning

This chapter will focus on how self-directed learning can be fostered in an online learning environment. Both in an online and in-person teaching environment, part of differentiated, self-directed learning involves several steps on the side of the learner. These steps include setting goals, taking responsibility for one's own learning, and reflecting on it. Furthermore, the chapter will explore how personalised learning plans can be created and how this can be done in an online learning environment.

Originally, self-directed learning started off in adult and university education in the 1960s (Loyens et al., 2008). Nowadays, many institutions and universities offer professional development courses which are based on the principle of self-directed learning. While self-directed learning was developed at a time when remote and online learning did not exist, the principles and approaches can be transferred to an online learning environment.

According to Loyens et al., all learning includes aspects of self-directed learning, and in many instances, the learner is not necessarily aware that they are applying some or even all of its principles. John Dewey, who was part of the progressive education movement, saw the potential of self-directed learning in schools. Since then, self-directed learning has been applied in secondary education, often as part of problem-based and/or project-based learning (both strategies have the acronym PBL). However, there are also examples of self-directed learning at the kindergarten or elementary level such as this one from a primary school in Australia ("**Sparking Curiosity With Self-Directed Learning**").

Self-Directed Learning activities can be defined as 'activities that are wholly or partly under the control of the learner … [and self-directed learning] is most clearly evident when students are called upon to learn on their own.' (Thomas et al., 1988). At the core of this idea is the premise of a critical learner taking responsibility for their learning (Petro, 2017). When teachers foster student initiative and ownership of their learning, a more student-centred approach can be achieved. Underlying self-directed learning is the development of a growth mindset and the student becoming a critical and reflective thinker.

The literature mentions several benefits for the learner (Hance, 2020), for example:

- self-directed learning is driven by intrinsic motivation on the side of the learner. This allows students to develop self-confidence.
- Students will learn to use research and application skills instead of the teacher providing all information and data. The students will go through the process of gathering and analysing data.
- Students will need to set goals and reflect upon the process of learning. This involves elements such as time management, reflecting on what went well and what areas need to be improved.
- Furthermore, self-directed learning allows for differentiation at different levels, for example by setting individual goals or determining individual pacing.

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At this point it is important to explain the differences between self-directed and **self-regulated** learning (Linkous, 2021):

- self-directed learning focuses on an individual's internal learning and growth process and external influences through instruction. The individual learner has control over their own learning. Characteristics of the learner include **self-efficacy** and motivation.
- Self-regulated learning "is a process of learning that is self-directed in nature, employing tenants of forethought, monitoring, control and reaction in a learning transaction."

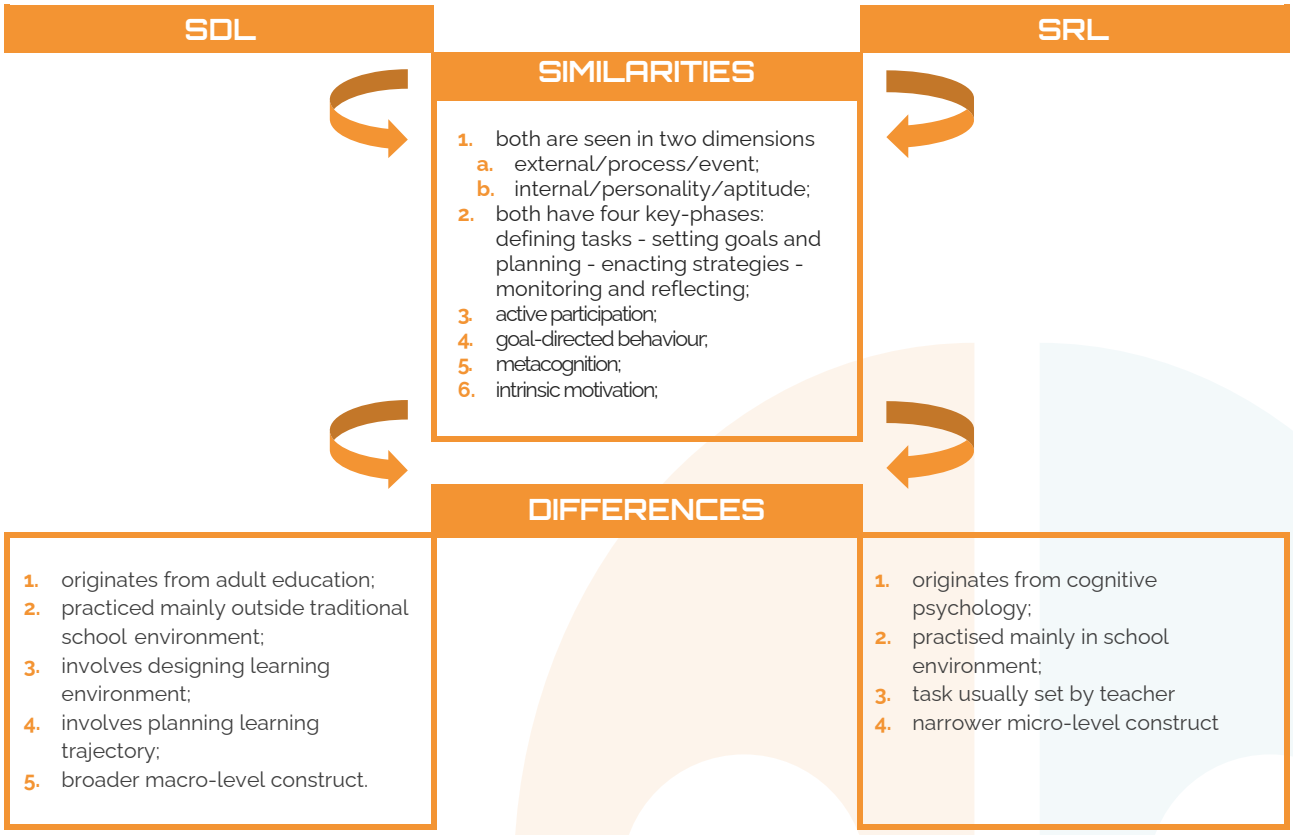

Figure 1. Similarities and differences of SDL and SRL

Source: *Saks, K., Leijen, A. "Distinguishing Self-Directed and Self-Regulated Learning and Measuring them in the E-learning Context", Procedia – Social and Behavioral Sciences. Vol. 113, 2014, p. 193.*

As shown below, many examples and strategies that are presented in this section combine characteristics of both.

Examples of self-directed learning activities are:

- Devising a research project in a science class.
- Writing a screenplay for a drama class.
- Producing a documentary for your civics/history lesson and developing a storyboard.
- Learning a skill through YouTube videos.

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Problem-based learning involves students being engaged in challenging and complex problems. To address these problems, students work together. Students are more motivated and engaged when dealing with real-world problems that they can relate to (Institute for Transforming University Education). This approach can help students develop content and conceptual knowledge at a more profound level by applying metacognitive skills (see further down).
Linked to problem-based learning is **project-based learning**. In both instances the learners' approach real-life problems collaboratively, however, project-based learning often has an interdisciplinary focus and is more structured to begin with. Below is one example of project-based learning. The following example was designed for remote learning (PBLWorks). The project "**Shrinking Our Footprints**" is focused on mathematics for grades 3 – 6:

Project Summary

In this project, students use measurement, data, and fraction concepts to develop, implement, and monitor an action plan for reducing their family's impact on the environment. Each student team focuses on one resource: water, garbage, food waste, electricity, or car gas use. Teams research information such as the amount of water used per minute of a shower or the number of miles per gallon used by a family car. They then conduct home inventories of their family's use of these resources for 1 week (e.g., timing the length of showers, the weight and volume of garbage, or the number of watt-hours used by key household devices). Students graph their individual family data and collective team data in line plots. After measuring their families' current use of resources, students set goals for reducing resource use by a given fraction and identify strategies to help their families achieve these goals (e.g., "We will reduce our use of water by one-quarter through taking shorter showers and making sure the dishwasher is full before running it.") Students communicate these strategies and goals to their families in the form of an informative/explanatory letter and then measure and graph changes in their families' resource use as they implement their action plans. As an alternative, if there are barriers to measuring data about resource use at home, students might consider measuring the use of resources in the classroom or across the school.

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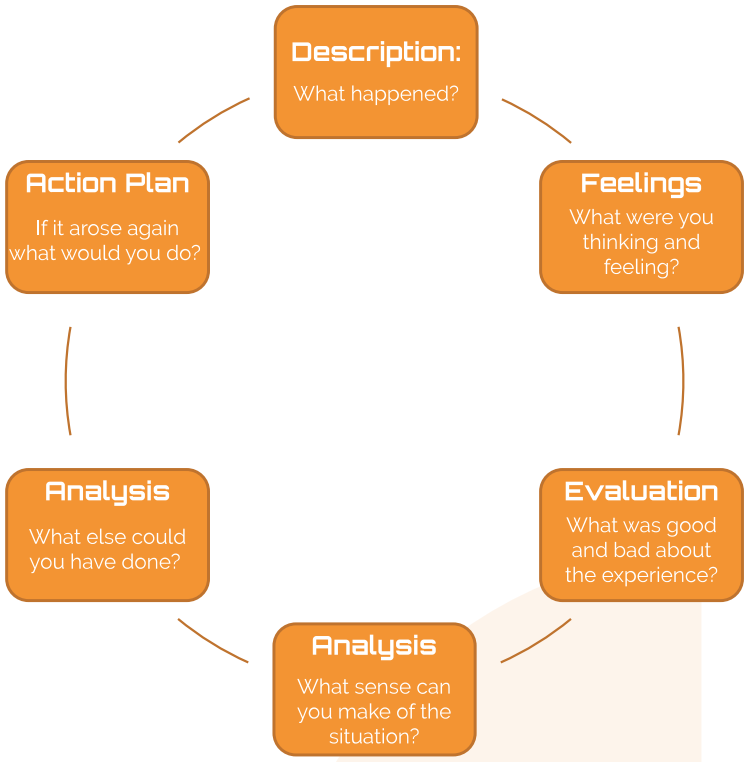
For self-directed learning to be meaningful to learners, planning, time management, collaboration, and other skills are employed and need to be reflected on by the learner. **Gibbs Reflective Cycle** shows how reflection is incorporated in the learning process:



(Gibbs, 1988)

An example of the reflective element of self-directed learning is shown below. This is a reflection sheet of a grade 10 research project on migration which resulted in a documentary:

- What was your research question?
- What was the size of your team?
- How were the tasks distributed within the team?
- What went well in your team? What would you do differently?
- What went well in planning your project, especially with regards to time management? What would you do differently?
- What insights did the research project's work shed light on regarding the employed research methods?
- What challenges did you face when conducting the research and producing the documentary?
- How did you overcome the challenges?
- What have you learned about the topic that you investigated for the documentary?
- What other questions would be worth investigating with regards to the topic of migration?

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Example from the International Baccalaureate of applying the principles of Self-Directed Learning

The International Baccalaureate includes a core component called CAS (Creativity, Activity, Service). This component involves seven learning outcomes which can be applied to any self-directed learning environment. These outcomes are:

1. Identify your own strengths and develop areas for personal growth.
2. Demonstrate that challenges have been undertaken, developing new skills in the process.
3. Demonstrate how to initiate and plan a CAS experience.
4. Show commitment to and perseverance in CAS experiences.
5. Demonstrate the skills and recognize the benefits of working collaboratively.
6. Demonstrate engagement with issues of global significance.
7. Recognize and consider the ethics of choices and actions.

(IB CAS Guide, 2022)

How can this be done in an online or hybrid environment?

To help learners with the process of reflection in an online environment, teachers can provide templates using Microsoft Forms, Google Forms, or any other form of digital document with questions that help students think about the learning process. Students can also record an audio file or even a short video. Furthermore, keeping a digital journal allows students to reflect on a regular basis and note down their observations. This file can be shared with the teacher to provide feedback.

Setting Goals in self-directed learning

Being a learner in a self-directed learning environment involves setting goals. Setting goals is part of the Self-Determined Learning Model of Instruction. This involves students setting a goal, developing an action plan, and adjusting the plan or goal. Within these phases, students need to identify the problem, possible solutions, potential barriers, and consequences of each solution (Garrels et al., 2019).

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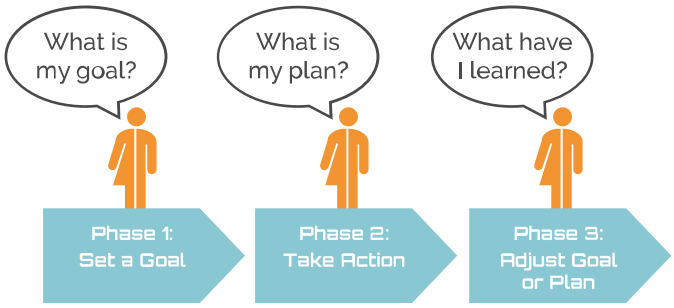

Source: Shogren,K.A., Raely, S.K., Burke, K.M., Whemeyer, M.L., The Self-Determined Learning Model of Instructions Teacher's Gude. Lawrence, KS: Kansas University Center on Developmental Disabilities, 2029, p. 7.

The goals as well as the process can be assessed during the learning or at the end. Setting the achievable and adequate goals is not an easy task and the following guidelines can help in doing so. The SMART framework can help in setting achievable goals (Jain, 2019):

Specific	Be specific about what you want to gain. Do not settle for general goals.
Measurable	Create goals in a manner where you can track your process.
Attainable	Create realistic goals, challenge yourself, but do not make it impossible for you to accomplish them.
Relevant	Ensure that the goals are relevant to you and are aligned to what you want to achieve. Create reasonable goals that will motivate you.
Time Based	Set deadlines. Time limits help you remain focused and determined.

The role of the teacher in setting self-directed learning goals is very important and the SMART goals framework can provide a good basis for feedback and re-assessing the goals.

With regards to differentiated learning, setting individual goals is a good way to differentiate both the process and the outcome of learning by being student-centred. This, in turn, helps foster intrinsic motivation.

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The following template based on the Kansas University Teaching Guide can be used in a digital form to help in the process of setting goals, taking action, and adjusting the goal or plan:

	Guiding Questions	Teacher Feedback
Phase 1: Set a Goal (based on SMART goals framework)	What do I want to learn? What do I know about it now? What must change for to learn what I don't know? What can I do to make this happen?	
Phase 2: Take Action	What can I do to learn what I don't know? What could keep me from taking action? What can I do to remove these barriers? When will I take action?	
Phase 3: Adjust Goal or Plan	What actions have I taken? What barriers have been removed? What has changed about what I don't know? Do I know what I want to know?	

Creating personalised learning plans (PLP)
Personalised learning plans are based on the previously described self-directed learning approach. They help develop avenues that are focused on the student's individual approach and can be defined as an

> *"instruction in which the pace of learning and the instructional approach are optimised for the needs of each learner. Learning objectives, instructional approaches, and instructional content (and its sequencing) all may vary based on learner needs. In addition, learning activities are meaningful and relevant to learners, driven by their interests, and often self- initiated"*
>
> *(2017 National Education Technology Plan Update),*

Personalised learning plans are an effective tool to differentiate learning objectives, instructional approaches, instructional content, and pace. **Here** you can find an example of a personalised learning plan template that focuses on student profiles, individual student goals, learning expectations, and reflection (self-evaluation, parent, and teacher reflection). This **site** describes the steps needed to develop a learning plan in more depth.

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In the table you can see the individual steps and how they can be adjusted for an online environment:

Steps	How can this be done in an online/hybrid learning environment? *Use a shared digital folder or OneNote notebook with a collaboration space.*
Measure and determine what needs to be learned	• Online meeting • Shared digital template of learning plan • Rubric with learning outcomes
Set achievable goals with your students	• Shared digital template of learning plan • Digital portfolio/journal
Let students choose how they will learn	• Provide a shared digital template of learning plan
Assess frequently, evaluate, and reflect	• Digital shared template of learning plan • Rubric
Track progress in a student portfolio	• Digital portfolio/journal
Have a one-to-one conversation with each student	• Online meeting
Encourage students to collaborate	• Shared folder • Students arrange regular online meetings

Metacognition

Metacognition "refers to the processes used to plan, monitor, and assess one's understanding and performance. Metacognition includes critical awareness of a) one's thinking and learning and b) oneself as a thinker and learner" (Chick, 2013).

At various points, there have been references to student agency as a central point of self-directed learning. This section will focus on understanding the metacognitive processes underpinning the development of a growth mindset to foster students' agency with a learner-centred approach.

Self-directed learning does not mean that the teacher becomes redundant. It rather shifts the teacher's role towards managing and organising activities, becoming a facilitator and motivator in the learning process, a guide towards finding resources, an evaluator of the results, and counsellor (Yan, 2012).

As previously discussed, self-directed and self-regulated learning share many characteristics. Metacognitive approaches align with the concept of self-regulated learning; They promote awareness of the learning process, taking an active approach, and regulating individual learning upon reflection. Metacognition helps students in their deep learning, and this can happen through the following steps (Tanner, 2012, p. 116):

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1. Pre-assessments – encouraging students to examine their current thinking.
2. The muddiest point – giving students practise in identifying confusion.
3. Retrospective assessments – pushing students to recognize conceptual change.
4. Reflective journals – providing a forum in which students monitor their own thinking.

Metacognitive moments should be included in the lesson planning, part of formative assessment, and should inform the next teaching steps. Metacognitive moments can take the following form:

	Feedback Conference	Reflection Conference	Assestment Conference
The Focus	Target help/instruction in specific areas of reading	Guiding students toward self-reflection	A conversation about the mastery of standards
Role of the Student	Ask questions and seek out specific feedback	Answer questions and reflect on his or her learning	Talk about progress toward specific standards
Role of the Teacher	Answer questions with accuracy and precision and allow for students to practice a strategy under supervision	Ask questions, paraphrase answers and guide students toward self-reflection	Asks questions about progress and share information based upon evidence of student work.
Further Application	Students leave with actionable steps to fix a particular work	Students can select the strategies and plan for future improvement based upon self-reflection.	Students can figure out what standards still need to be mastered and how to get there
Role In Cultivating a Growth Mindset	Every student has a chance to admit to failure and learn from it	Every student has a chance to articulate areas where they are growing and where they still need to grow	Every student is able to realize that there are as many retakes as necessary until they master the standards

Source: Spencer, J. (2018, August 23). Five ways to boost metacognition in the classroom. John Spencer. https://spencerauthor.com/metacognition/

In an online environment, this can be done through regular online meetings, shared folders, and digital collaboration spaces.

Conclusion

self-directed learning as an educational approach has gained increasing momentum as it focuses on a growth mindset which can only be achieved if students develop an awareness of their own learning. This awareness encourages students to become actively involved in their learning process. The self-directed learning approach can be used both in-person as well as in an online learning environment. In an online environment, when students work on their own, the need for a self-directed learning approach is even more pronounced: being able to set goals, develop approaches, manage time, and reflect on their own learning are valuable life skills. This cannot be done without the help of the teacher, whose role changes accordingly as the learning becomes increasingly learner centred. Self-directed learning allows for differentiation based on individualised learning paths and students develop an understanding of their learning and knowledge.

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11. Assessment in an Online Learning Environment

Introduction

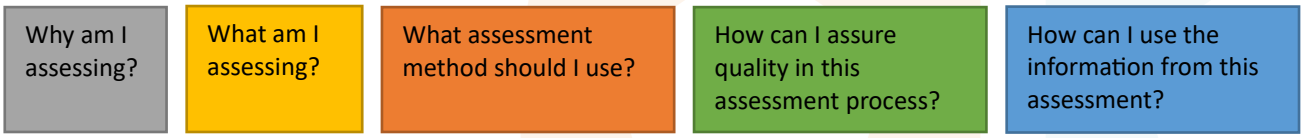
Whether in an online or in-person environment, assessment is an integral part of teaching and learning. When designing a lesson or a unit, assessment should be the starting point in a process of backward planning. It is also important that standards or criteria based on learning outcomes are formulated and conveyed to the learner. The following chapter will discuss different purposes of assessment, which in turn guide how assessment is approached. Furthermore, the challenges of assessment in an online environment will be highlighted. Finally, practical steps and tools will be introduced that can be used in an online teaching environment. The information and ideas surrounding these practical steps and tools have been drawn from a great variety of resources.

What is the Purpose of Assessment?

The overall purpose of assessment is to indicate the extent of one's learning regarding skills, competencies, and content knowledge. Ideally, learners should be offered a variety of assessment tasks or activities that allow them to demonstrate their learning in different ways. There are three distinct yet connected purposes of assessment relating to different approaches. These are: assessment on learning, assessment of/for learning, and assessment as learning (Earl and Katz, 2006).

In all three instances, a learner's performance is assessed and can take the form of teacher assessment, peer assessment, and self-assessment (Performance Assessment, 1994). Assessments can happen as formal assessments, for example, a written or oral test, a homework assignment, or through informal questioning during a lesson. Questioning can be a very powerful and instantaneous way of assessing a learner's understanding (van Gaans, 2023).

When planning lessons and assessment, the following points should be taken into consideration:



Source: Manitoba, Rethinking Classroom Assessment with Purpose in Mind, 2006)

Two types of assessment can be further distinguished: formative and summative assessment. While formative assessment focuses more on the **process** of learning, summative assessment centres around the product of learning (Munoz and Gusky, 2015).

Formative Assessment

Assessment should be used to guide and inform the approaches to **teaching**. The main objective of assessments is to inform both teachers and students of the **learning** that's taken place; it helps teachers understand to what extent the learning outcome (set at the beginning of an activity or unit) has been met by their students. This insight will then inform the teaching and planning of further lessons, including re-teaching specific skills or content-related material if necessary. If this is the case, a teacher might choose a different approach or teaching strategy. For example,

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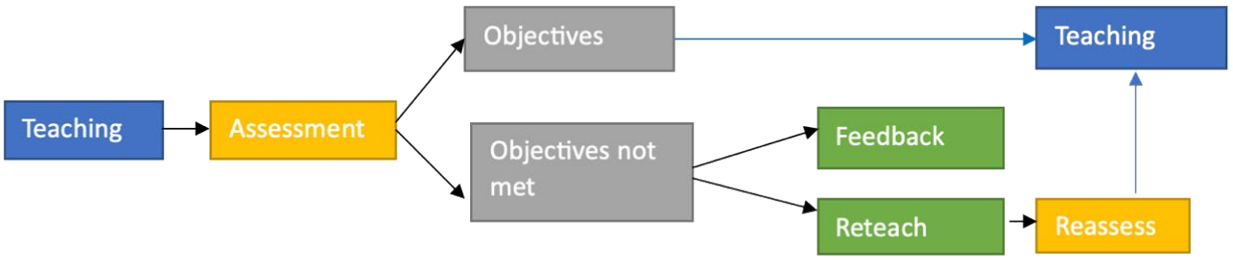
a strategy that previously worked with other student groups might not be suitable for the current class and an activity might need to be scaffolded or differentiated to meet the needs of specific students. Effective and meaningful feedback (see further down) is a key element in enabling the student to take control of their own learning.



According to an OECD report from 2005, there are numerous benefits to formative assessment such as changing the culture of the classroom, communicating expectations and feedback clearly, using a variety of instructional methods, and using different ways to assess student understanding. By using peer- and self-assessment, student initiative and autonomy can be strengthened by allowing students to communicate feedback in a respectful manner to other students and to reflect on their own learning.

Summative Assessment

Summative assessment does not focus on students' learning process or progress, its purpose is to summarise student achievement at a given point (Sadler, 1989). This is usually done in an end-of-unit test or an end-of-year exam.

Summative assessments are usually part of a national assessment system (Assessment Reform Group, 2003) and can have several functions. For individual students, it can focus on these purposes:

- Internal – to keep records and give students reports on progress to other teachers, parents, and pupils.
- External – to certify, select and meet statutory requirements.

In contrast, for groups of students or classes, summative assessments have the following objectives:

- Evaluation – they can be used to evaluate teachers, schools, and national authorities. The collected data is often used to shape educational policies.
- Monitoring – they can be used to compare the data of groups or classes over time.

Critics have pointed out that standardised tests are overly simplistic since they fail to assess qualities like student initiative, creativity, and critical thinking abilities (Bolton and Elmore, 2016), as they solely focus on evaluating isolated knowledge or end results.

In general, the continuum from formative to summative assessment is fluid and both forms of assessment provide students and teachers with valuable information. The table below gives an overview of the different purposes of formative and summative assessments:

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	Formative assessment: Assessment for learning	Summative assessment: Assessment of learning
Why assess?	To enable teachers to determine next steps in advancing student learning.	To certify or inform parents or others of student proficiency in relation to curriculum learning outcomes.
Assess what?	Each student's progress and learning needs in relation to the curricular outcomes.	The extent to which students can apply key concepts, knowledge, skills, and attitudes related to the curricular outcomes.
What methods?	A range of methods in different modes that make students' skills and understanding visible.	A range of methods in different modes that assess both product and process.
Ensuring quality	• Accuracy and consistency of observations and interpretations of student learning. • Clear, detailed learning expectations. • Accurate, detailed notes for descriptive feedback.	• Accuracy, consistency, and fairness of judgements based on high-quality information. • Clear, detailed learning expectations. • Fair and accurate summative reporting.
Using information	• Provide each student with accurate, descriptive feedback to further their learning. • Differentiate instruction by continually checking where each student is in relation to the curricular outcomes.	• Indicate each student's level of learning. • Provide foundation for discussions on placement or promotion. • Report fair, accurate, and detailed information that can be used to decide the next steps in a student's learning.

Adapted from: Manitoba, Rethinking Classroom Assessment with Purpose in Mind, 2006.

Assessment Criteria and Standards

When planning teaching units, both in an in-person and in an online learning environment, the best approach is backward planning. This means that learning objectives will determine the design and purpose of the different types of assessment as well as the teaching and learning process. Assessment needs to be transparent. This means that students need to be aware of the expectations and the learning objectives as well as how they will be assessed.
This needs to be coupled with reliability in assessment (Assessment Reform Group, 2003) by applying the criteria in a consistent manner.

To create reliable and transparent forms of both formative and summative assessments, students need to be provided with meaningful information that outlines the standards against which they are assessed. This can be done in the form of a rubric that includes and explains the criteria in a student-friendly way. See below a template for creating a meaningful rubric, which can be adapted to all subjects or assignments:

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	Not met [1 mark]	Partially met [2 marks]	Fully met [3 marks]
Criteria/standard 1 • **Use bullet points to explain criteria/standard**			
Criteria/standard 2			
Criteria/standard 3			

The Role of Feedback

Providing your students with meaningful feedback is crucial to the process of helping students with their learning, whether this be in an in-person or online learning environment. As outlined above, formative, and summative feedback needs to be targeted, explicit, and comprehensible for the students. Feedback can be both oral and written.

Whenever feedback is given, it needs to be specific, contextualised, and must be based on learning objectives. Feedback that is generic, for example, "Good job!" does not provide a student with targeted and clear comments about what exactly was good. So, feedback needs to be criteria- or standard-orientated and reflect on the work completed.

Feedback also provides students with the next steps. This can be done by posing questions, for example, "How can you…?" or "What do you think you might have to do in order to…?" This will allow the student to reflect and take initiative in their learning.

In both oral and written feedback, it is important to be thoughtful in formulating your response and show respect for the student while critiquing their work. Feedback should be given promptly or as soon as possible and allow students to apply this feedback in a timely manner.

To sum up, feedback should be:

- Timely
- Descriptive of the work produced rather than the student
- Positive
- Clear and specific
- Differentiated (Brookhart, 2017)

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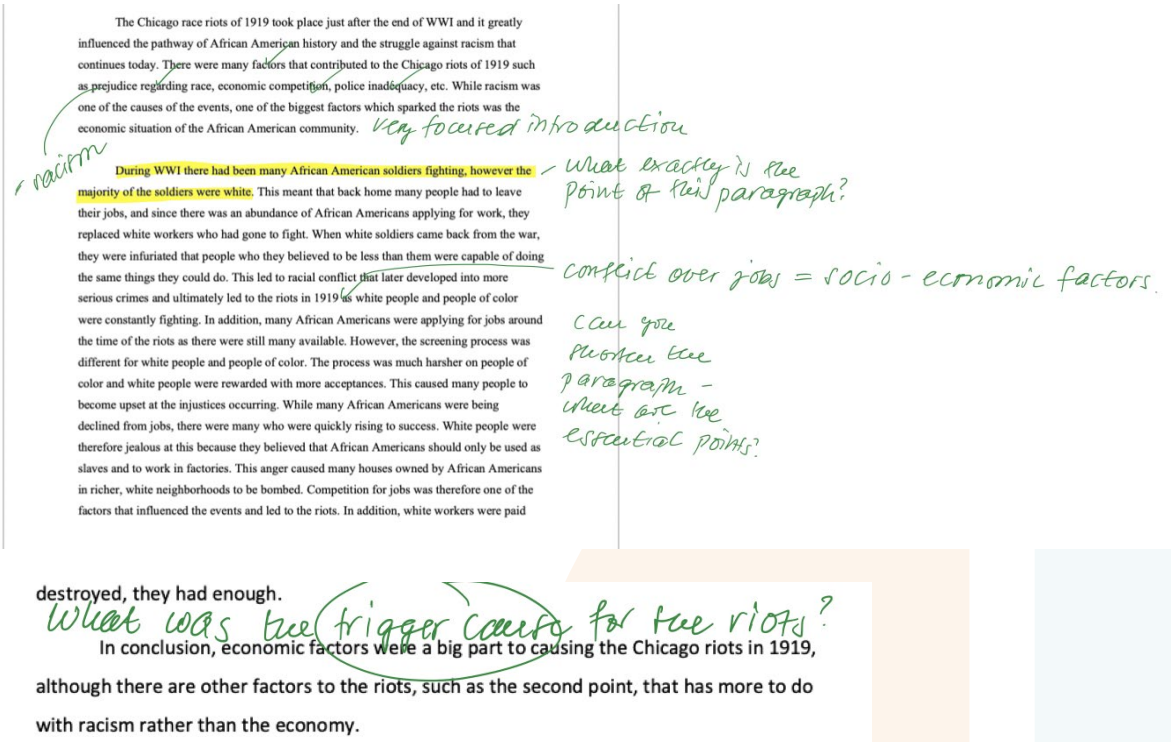
In an online learning environment, written feedback can be provided in different ways by:

- Annotating documents using the comment or review function.
- Making in-text annotations by adding comments in a different colour, highlighting, or underlining.
- Writing a separate comment.
- Highlighting the criteria in the rubric using the highlighting or drawing function.

If teachers have a tablet and stylo, they can make hand-written annotations within documents in the OneNote class notebook as shown below:



Oral feedback can be given during an online meeting by using break-up rooms or by using an individualised comment in the chat rubric.

If, for example, Microsoft Forms is used, electronic feedback can be provided when reviewing the responses.

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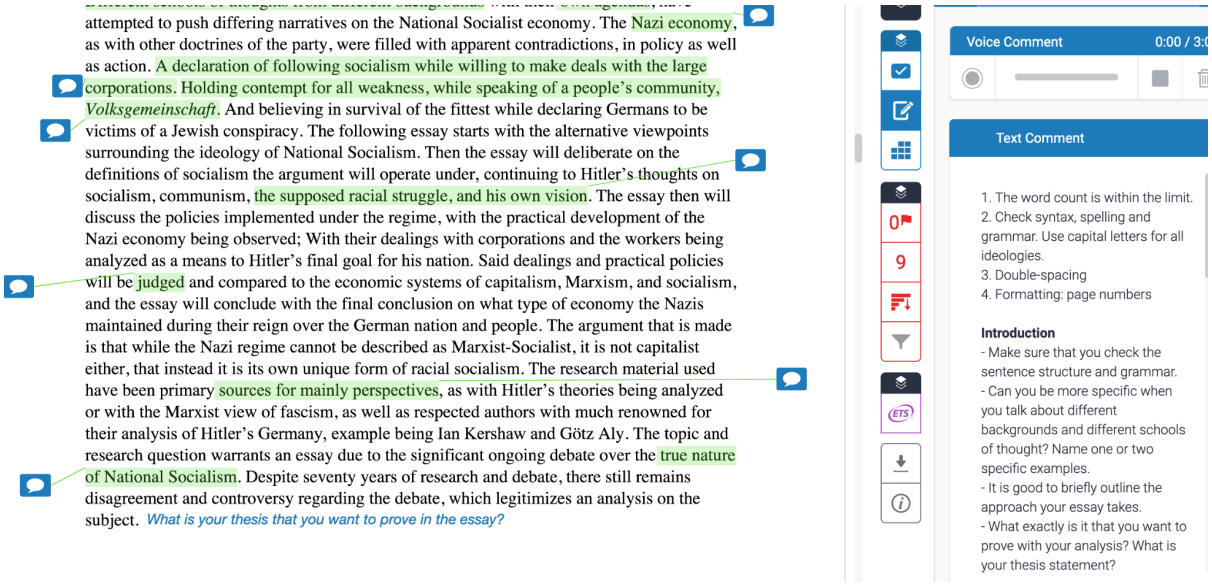
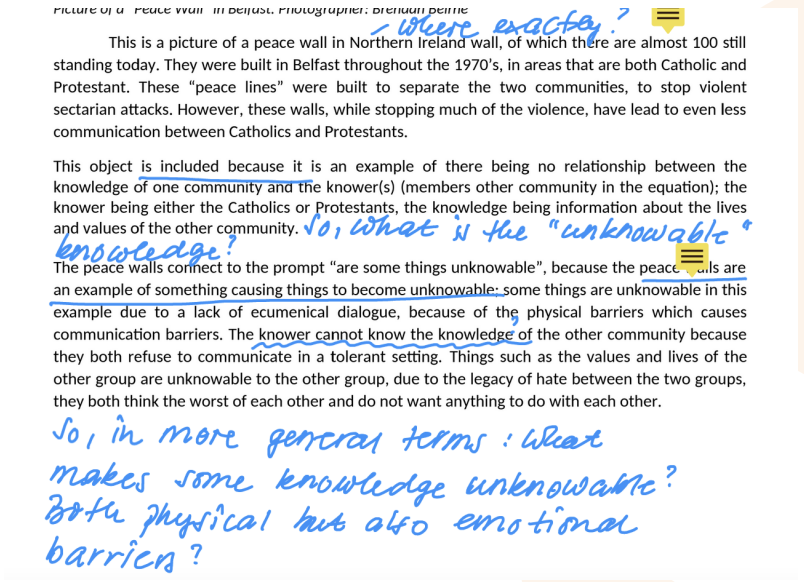
Integrated online learning platforms or programs such as Managebac or Turnitin have additional functions such as digital post-its.



This is an example using in-text annotations and post-its:



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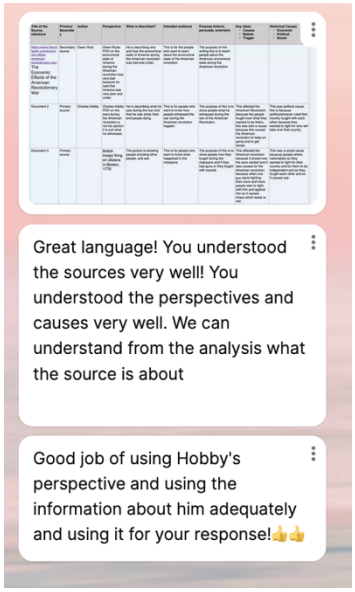
The example below shows peer-assessment using Padlet to add comments.



Whenever possible, one-to-one meetings between teachers and students should be held if students do not understand the feedback or have questions.

Academic Integrity and Assessments in an Online Environment

Academic integrity is becoming an increasingly salient issue and it is important that students and teachers are aware of the different layers of malpractice. This can range from collusion to not referencing other people's work to copying other people's work.

Working in an online environment makes it even more pertinent to highlight the importance of academic integrity. At the same time, it should not be assumed that students will intentionally violate the standards of academic integrity.

The fundamental values of academic integrity are honesty, trust, fairness, respect, responsibility, and courage (International Center for Academic Integrity, 2021).

For students to appreciate the importance of academic integrity, principles and best practices need to be taught and integrated in all subjects. The increased availability of Artificial Intelligence makes it even more imperative to design assignments that focus on second order thinking rather than asking for facts.

To avoid malpractice these approaches to assigning work can be used (Burjan, 2020, quoted in Kanova, K. and Pisutova, K., 2022):

- Differentiated assignments (see further down).
- Individualised assignments, each student will have a different topic.
- Assignments which focus on second order thinking with open-ended questions (eg. "To what extent …").
- Assignments which clearly involve online research.
- For longer assignments, have interim meetings.
- Get to know the writing styles of the students.

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In assigning tests online, these approaches can be useful:

- Use different questions for different students.
- Set time limits (eg. Microsoft Forms).
- Tests should be written at the same time (eg. Microsoft Forms).

There are several programs available, such as Turnitin, which help teachers in tracking possible violations of academic integrity. But first and foremost, students tend to 'cheat' less if they can have open and honest conversations with their teachers.

Differentiated and Individualised Assessment in an Online Learning Environment

Differentiation means that teaching techniques and strategies are adapted to learners' needs and ensure that all students meet the learning objectives. Differentiation includes students with particular challenges and high achievers. The case of differentiation has been made by John Hattie and Carol Ann Tomlinson. Several of the following ideas and suggestions are based on their work and research. The diagram below shows the different ways that differentiation can be applied:

Differentiation

- Is a teacher's proactive response to learner needs.
- Shaped by mindset and guided by general principles of differentiation.
- Teachers can use differentiation through:

Content	**Process**	**Product**	**Affect/ Environment**
The information and ideas students grapple with to reach the	How students take in and make sense of the content.	How students show what know, understand, and can do.	The climate or tone of the classroom.

Adapted from Tomlinson, Carol Ann, Moon, Tonya R., Assessment and Student Success in a differentiated classroom, Alexandria: ASCD, 2013.

Individualised and differentiated assessment in an online environment follows the same principles as in an in-person environment. This can include scaffolded assignments, small group assignments, and strategies such as scaffolding.

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Here are some examples of activities that can be done in small groups:

- Think-pair-share.
- Peer-assessment.
- Provide activities that either adjust the level of difficulty by adjusting language, content, or skill level.
- Scaffold activities by providing for example sentence starters or diagrams.

Below is a summary of Strategies for Scaffolding and Extending Student Work (Tomlinson et al, 2015):

Strategies for Scaffolding and Extending Student Work

Some Strategies for Scaffolding Student Work:

- Providing text and directions at appropriate reading level
- Providing texts and directions in student's first language
- Streamlining directions
- Encouraging students to create early drafts of writing in their first language.
- Front-loading academic vocabulary
- Using small-group instruction or discussion as a tool to prime students for upcoming work or to assist with meaning making.
- Providing information in multiple formats and media
- Providing text digests or summaries to support comprehension.
- Using peer pairs or well-structured tutorials to assist students in learning.
- Providing practice with critical skills— including prerequisite skills—that are necessary for quality work.
- Using graphic organisers or templates to guide student thinking.
- and/or writing.
- Designing tasks that are more concrete, have fewer components, or are more structured.
- Providing quality models at the student's current level of mastery
- Assigning homework targeted at student's level of mastery with key knowledge and skills.
- Providing guided practice at learning centres or stations.
- Using adaptive technologies.
- Assigning multipart tasks one part at a time
- Providing guidance and illustrations to help students move from information to meaning making.
- Providing very clear feedback on students' next steps and supporting students in planning and working based on the feedback.
- Helping students learn to provide clear and useful feedback to one another.
- Using multiple modes of teacher input.
- Providing multiple ways of expressing learning.
- Creating tasks based on student interest.
- Providing opportunities to learn in preferred modes.

Some Strategies for Extending Student Work:

- Using advanced resources.
- Using small group instruction to push student thinking.
- Introducing complex vocabulary.
- Designing tasks that require consider- able independence and are complex, abstract, multifaceted, and open ended.
- Designing tasks that require depth and breadth of knowledge.
- Designing tasks that require making connections across times, places, and content areas.
- Providing clear feedback that focuses students on depth, breadth, insight, and quality.
- Providing advanced criteria for success.
- Providing models at high levels of excellence.
- Calling on students to use multiple concepts, multiple skills, or unknown skills.
- Encouraging students to move rapidly from information to meaning making.
- Probing for multiple meanings.
- Examining issues and problems from multiple and disparate perspectives.
- Putting extended emphasis on student choices related to content, process, and product—other than those necessary for initial rigour.
- Supporting students in working like a professional as much as possible.
- Supporting students in using technologies in new ways to present information or solve problems.
- Developing long-term, independent tasks with appropriate support.
- Assigning homework at advanced challenge levels.
- Providing for multiple ways of expressing learning.
- Creating tasks based on student interest.
- Providing opportunities to learn in preferred modes.
- Encouraging comfort with ambiguity.

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Tools for Assessment in an Online Learning Environment

Canva	https://www.canva.com/	Canva can be used to give feedback using the Classwork folder. Class assignments can be published on Canva or using Google Classroom. Comments can be written on the students' work.
Edpuzzle	https://edpuzzle.com/	Edpuzzle allows teachers to provide feedback by using "My Classes" and then selecting individual students in the assignment list. There is an "add comment" function that allows teachers to provide feedback.
Formative	https://app.formative.com/login	Formative provides different templates for different types of multiple-choice question assignments which are marked automatically.
Google Forms		Google Forms can be used for multiple-choice questions which are marked automatically.
Kahoot	https://kahoot.com	Kahoot provides automatic feedback for multiple-choice questions. The teacher can use the "Report" section to get stats on how the class and individual students perform.
Lino	http://en.linoit.com/	Lino is a collaborative tool and allows teachers to use 'sticky notes' right in the text.
Mentimeter	https://www.mentimeter.com/solutions/education	Mentimeter can be used for open questions and formative assessment. It provides teachers with immediate information on what students have learned, for example in the form of an exit ticket.
Padlet	https://padlet.com/	Padlet allows teachers to add comments.
Pear Deck	https://www.peardeck.com/google-slides	Pear Deck is used to create interactive presentations. It can be used for formative assessment and feedback for teachers in synchronous and asynchronous learning.
Quizlet	https://quizlet.com/latest	Quizlet can be used to create interactive flashcards and quizzes which can be used for formative assessment and peer assessment using class sets.
Socrative	https://www.socrative.com/	Socrative can be used to create quizzes for classes, groups, or individual students. Teachers can produce multiple-choice, true or false, or one sentence answer quizzes and give individual feedback to students.
Virtual exit tickets	Google forms, Microsoft forms etc	Many of the above programs can be used to create virtual exit tickets.

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There are many websites with creative ideas for online assessment strategies. The ideas below are taken from Edutopia.

- **Dipsticks:** use short quick check-ins to see if students are on track. You can ask more general questions as well as more specific questions and ask them to rate their understanding on a scale. This could be done with an online form (Microsoft Forms, Google Forms, Monkey Survey).
- **Digital Journals and One-Pagers:** rather than answering questions during an online lesson, ask students to write journals to reflect on their learning. This could be submitted in a digital form on Google Drive or in the student section in OneNote Class Notebook. If students don't like to write, they could also submit a voice recording. To create a one-pager with key themes, questions, or ideas about a topic, students could create a poster using Powerpoint or Canva.
- **Elevator Pitches and Tweets:** note down important takeaways from the lesson and post them on Padlet in the form of a tweet and share them with the rest of the class.
- **Square, Triangle, Circle:** prepare a document with a square, triangle, and circle. Have students write what they understood in the square, three important ideas in the triangle, and questions they still have about the topic in the circle.
- **Peer Assessment:** students evaluate each other's work using online documents. Students can be in a break-out room and share their feedback.
- **Virtual Exit Tickets:** Use Google Docs, Microsoft Forms, or Padlet to ask questions at the end of the lesson to gauge their learning.
- **Write a letter:** write a letter to explain what you have learned today (concepts, content knowledge) and ask questions.
- **Create a TED talk:** film yourself preparing a short presentation on a topic.
- **Illustrate Connections:** use a digital template to create a diagram illustrating connections between causes and consequences.
- **Online quizzes:** Use Quizlet, Kahoot, or other tools (see above) to create online revision cards and quizzes.

Conclusion

The purpose of this chapter was to demonstrate how both formative and summative assessments can be performed in an online environment. While the underlying rationale of both types of assessment is the same, there are differences in administering the assessment in an online learning environment. There are many different tools available that help students and teachers in their learning and teaching. While technology is indispensable, a good rapport between students and teachers is equally or even more important.

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Annexes

Glossary

Conditional knowledge: The ability to know when and why we need to use different strategies.

Cyberbullying: A type of aggressive behaviour manifested by threats, humiliation, intimidation, or abuse of a person by one or more individuals via the internet, mobile phone, and other communication devices.

Declarative knowledge: Knowledge about how the brain and memory work, knowledge of different learning methods and strategies.

Deep learning model: Part of a broader family of machine learning methods based on artificial neural networks.

E-Safety: Refers to the protection of individuals from threats posed by the Internet, particularly regarding personal information.

Flipped Classroom Methodology: Assigning students some material to study before appearing in class e.g., study links, online presentations, websites, etc. Students get engaged and study at their one pace and come to the class ready to delve deeper into the subject.

Gamification: Adding game mechanics into nongame environments.

Metacognition: The awareness and control of thinking of learning. It can be divided into metacognitive knowledge and metacognitive regulation.

Metacognitive regulation: The ability to plan, monitor and evaluate one's own learning process. For this reason, it is recommended to draw up one's own individual study plan and not forget to set out one's own goals.

Problem-based learning: Involves students being engaged in challenging and complex problems. To address these problems, students work together.

Procedural knowledge: Knowledge about how to implement different learning strategies.

Retrieval practice: A universal and simple learning strategy in which regularly calling information to mind boosts the ability to deliberately recall information and thus both strengthens the memory trace and enhances long-term memory.

Self-efficacy: refers to people's beliefs about their capabilities to exercise control over their own activities (Self-efficacy).

Self-directed learning: A learning method that allows students to take initiative for their learning (What is self-directed education?).

Self-regulated learning: a process of learning that is self-directed in nature, employing tenants of forethought, monitoring, control, and reaction in a learning transaction (Linkous, 2021).

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Summative assessments: do not focus on students' learning process or progress, their purpose is to summarise student achievement at a given point (Sadler, 1989).

Transversal competencies: are skills typically considered as not specifically related to a particular job, task, academic discipline, or area of knowledge but as skills that can be used in a wide variety of situations and work settings (UNESCO-UNEVOC).

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https://unevoc.unesco.org/home/TVETipedia+Glossary/show=term/term=Transversal+skills#start

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Tools Listed:

Cambridge University	https://www.cambridge.org/elt/blog/2022/04/29/seven-best-digital-teaching-tools-online-esl-classroom/
Canva	https://www.canva.com/
Chat GPT	https://openai.com/blog/chatgpt
Edpuzzle	https://edpuzzle.com/
Eurogeo	https://www.eurogeography.eu/
Europeana	https://www.europeana.eu/en
European Education Area	https://education.ec.europa.eu/
The European Schoolnet	http://www.eun.org/
Flinga	https://flinga.fi/
Flip	https://info.flip.com/en-us.html
Formative	https://www.formative.com/
Historiana	https://historiana.eu/
Kahoot!	https://kahoot.com/schools/how-it-works/
Lino	http://en.linoit.com/
Loom	https://www.loom.com/
Managebac	https://www.managebac.com/
Mentimeter	https://www.mentimeter.com/
Minecraft: Education edition	https://education.minecraft.net/en-us
Nearpod	https://nearpod.com/
Oak National Academy	https://www.thenational.academy/
OER Project	https://www.oerproject.com/

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OpenTeach Project	https://open-teach.eu/ilp/pages/external-dashboard.jsf?menuId=130327&locale=en-GB#/?dashboardId=130326
Padlet	https://padlet.com/
Pear Deck	https://www.peardeck.com/google-slides
PhET	https://phet.colorado.edu/
Plickers	https://get.plickers.com/
Poll Everywhere	https://www.polleverywhere.com/
Quizizz	https://quizizz.com/home/schools-and-districts?lng=en
Quizlet	https://quizlet.com/
Scientix	https://www.scientix.eu/
Scoilnet	https://www.scoilnet.ie/
ScreenPal	https://screenpal.com/
Socrative	https://www.socrative.com/
Stanford History Education Group	https://sheg.stanford.edu/
TedEd	https://ed.ted.com/
Turnitin	https://www.turnitin.com/
Wardwall	https://wordwall.net/
Wheel Decide	https://wheeldecide.com/

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Authors' Biographies

Ute Ackermann Boeros has been teaching History and Citizenship Education for more than 25 years at a variety of levels covering a wide variety of topics. During her teaching career, digitalization took up momentum and Ute included more and more digital tools. Currently, she is teaching History and TOK at the IB Diploma level with a focus on 20th-century History at the American International School in Nicosia, Cyprus. Since 2017, she is also the Department Head for Social Studies. The school is inclusive and more recently the focus of her work has shifted increasingly to curriculum development and creating inclusive, concept- and inquiry-based teaching resources. Already before the COVID-19 pandemic hit the schools, she used digital tools in her classroom. As an active member of Euroclio's Historiana Teaching and Learning Team, Ute has been involved in developing teaching resources with a focus on digital learning.

Igor Radulovic is a history teacher from Montenegro with ten years of experience in education. He currently works as a history teacher at the International School of Haarlem. In addition to that, since 2015, he has been involved in various projects related to education, especially the ones related to controversial and contemporary history. He is an author and co-author of several publications and manuals and a member of the "Learning History that is not yet history" team, which won the Global Pluralism Award in 2019. He is currently a focal point in the International Residual Mechanism for Criminal Tribunals project related to Teaching the History of the 1990s conflicts in former Yugoslavia. He is passionate about online teaching and the usage of new techniques and tools in his work.

Katarzyna Pelc is an English teacher and teacher trainer with over 20 years of experience in a Polish state secondary school. She is interested in the latest teaching methodologies, especially IT tools used in the classroom, student-based pedagogies, and the development of key and transversal competences. Katarzyna is a participant in international projects, co-writer of teacher courses, and conference lecturer. She is an AFS Intercultural Programs charter coordinator in Poland and recipient of two awards: in 2022 - from the Ministry of Polish Educator for an interdisciplinary project-based event, and in 2023 - from AFS International NY for the project, "The environmental impact of fast fashion". She is currently working on her PhD in the field of recognition of transversal competencies developed by secondary students during long individual mobilities.

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