



**GOOD  
NEWS  
IS COMING**

How to increase the quality of  
e-learning, keep concentration  
high during long online sessions  
and gamification resources

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PROJECT VELA



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# INTRODUCTION

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VET systems are urgently in need of a package of support measures to strengthen their capacity to respond to these current challenges as well as to adapt and respond effectively to both anticipated and unanticipated changes in the educational sphere. Many countries are encouraging and supporting VET providers in making use of distance-learning tools wherever possible to ensure the continuity of learning. While distance learning cannot completely replace in-person training and its effectiveness depends on the occupation, it can nonetheless help learners to remain engaged and continue to make progress in their studies.

This Result will address:

- Educators, facilitators, and VET providers driven by the necessity to boost their digital competences in order to facilitate the involvement of vulnerable groups in the education process.
- Project managers, community leaders, instructors, and social workers who are interested in improving their ability to use innovative digital tools to increase the quality of online education.

In the digital era we live in, innovative aspects must focus on making lessons more fun by attracting the attention of learners in a sustainable way and helping them to avoid boredom and tiredness, which are usual in online sessions. For this reason, the project intends to enhance innovative methodologies such as gamification (e.g., contests with questionnaires like Kahoot or Socrative and virtual scape rooms) and inclusion with strategies for considering cultural differences or even gender specificity in the interaction during virtual learning, using all the most recent discoveries in this area.

Gamification of education aims at redesigning e-learning systems to utilize the benefits of game design elements in motivating learners to learn better, further engaging them, situating their learning, and maintaining their social identity. However, applying gamification to e-learning goes beyond using game design elements in education and requires alignment with instruction and learning. The target group, thanks to the e-book, will be able to create educational paths relying on innovative tools and practices, and the learners will benefit from a set of new activities that will increase their interest and results.

The e-book will contribute to the understanding of how gamified environment systems affect users based on their characteristics. Specifically, it will contribute to the comprehension of how gamification affects the engagement and learning behavior of VET learners based on their personality traits.

On this basis, the current e-book should provide interactive technological features created to show signs of progression and motivational methods, collaboration methods, and ensure transferability is concrete for the students and instructors by using the activities and tools proposed in a very different European context. The e-book will be translated into all partner languages beyond English, and the accessibility features will have strong transferability potential.



## SECTION 1

# INTRODUCTION TO E-LEARNING

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# WHAT IS E-LEARNING?

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In recent years, there has been a remarkable shift in the way education is delivered and consumed, thanks to the rise of e-learning. E-learning, a contraction of "electronic learning," is a form of education that utilizes electronic technology, particularly the internet and digital devices, to deliver instructional content and facilitate learning experiences. E-learning refers to all learning activities that take place exclusively via a web-connected device, often referred to as e-learning, e-learning, online training, or virtual learning. It is also sometimes mistakenly associated with the use of computers or mobile devices in the classroom, far from the concept of distance learning.

Although the concept is clear, there is a constant evolution in e-learning, both in the context of practical application and in the field of research.<sup>1</sup>

[1] Mastan, I. A., Sensuse, D. I., Suryono, R. R., & Kautsarina, K. (2022). Evaluation of distance learning system (e-learning): a systematic literature review. *Jurnal Teknoinfo*, 16(1), 132-137.



# RELEVANCE OF E-LEARNING

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E-learning has revolutionised traditional educational models due to advancements in technology and the widespread availability of the internet. It is a flexible and accessible method of learning that allows individuals to acquire knowledge and skills remotely, often at their own pace and convenience. This approach has opened new horizons for learners worldwide, providing them with unprecedented flexibility and availability to acquire knowledge and skills, overcoming geographical barriers at a reasonable cost. It transcends physical borders, liberating learners from geographical constraints and allowing students from different parts of the world to access the same high-quality educational content.

Unlike conventional classroom settings with fixed schedules, e-learning empowers individuals to tailor their learning experience according to their unique needs and circumstances. This flexibility allows students to access course materials at any time and from virtually any location with an internet connection.

This level of adaptability is especially beneficial for those who have busy schedules, such as working professionals, parents, or individuals with limited mobility. This global reach fosters a diverse and inclusive learning community, enabling individuals from various cultural backgrounds to interact and collaborate on shared interests. The self-paced nature of e-learning is another pivotal advantage. Each learner can progress through the course material at their own speed, taking the time they need to grasp complex concepts or revisiting topics as required. This personalised approach enhances the overall learning experience, catering to the diverse learning styles and abilities of students.





The widespread adoption of e-learning can be attributed to the increasingly pervasive presence of the internet and the availability of connected devices. The digital age has democratized access to information and knowledge, breaking down barriers to learning and education. With e-learning, individuals no longer need to rely solely on physical libraries or in-person instructors; the vast expanse of the internet is their classroom, brimming with knowledge waiting to be explored.

The COVID-19 pandemic has had a profound impact on various aspects of society, including education, where it has served as a lever for change to spread e-learning. One of the most notable effects has been the significant increase in the importance and adoption of e-learning. As governments and educational institutions worldwide imposed restrictions on physical gatherings to curb the spread of the virus, e-learning emerged as a vital alternative to ensure continuity in education, even though the move from traditional learning to e-learning needs a change in the whole educational process and takes into consideration some key factors such as quality, strategies to

increase effectiveness, or gamification, as will be explained in this e-book. According to data from Global Market Insights, the market for e-learning was valued at USD 399.3 billion in 2022, and expectations are for continuous growth worldwide.<sup>2</sup>



**With e-learning, individuals no longer need to rely solely on physical libraries or in-person instructors; the vast expanse of the internet is their classroom, brimming with knowledge waiting to be explored.**



[2] E-learning Market Size - By Technology (Online E-learning, LMS, Mobile E-learning, Rapid E-learning, Virtual Classroom, Others), Provider (Service, Content), Application (Corporate, Academic, Government) & Forecast, 2023 - 2032.



KEY TERMS AND CONCEPTS

E-learning can take various forms, such as online courses, virtual classrooms, webinars, and interactive modules, offering learners the freedom to study at their own pace and from any location. There are several concepts linked to e-learning that are essential for understanding the discipline:





## **Learning Management System (LMS)**

A software application that enables the creation, delivery, and management of e-learning content. It provides educators with tools to track learners' progress, assess their performance, and facilitate communication.

## **Asynchronous Learning**

allows learners to access content and participate in activities at their own convenience, without requiring real-time interaction with instructors or peers.

## **Synchronous Learning**

involves real-time interaction between instructors and learners through live webinars, virtual classrooms, or video conferencing tools, promoting active engagement and immediate feedback.

## **Gamification**

adding game-like elements, such as points, badges, and leaderboards, into the learning process to enhance motivation and learner engagement.

## **Microlearning**

delivers content in small units (sometimes known as learning pills), making it easier for learners to absorb information and retain knowledge efficiently.

## **Blended or hybrid learning**

combines traditional face-to-face instruction with online e-learning components, offering a more complete learning experience while exploiting the advantages of both modes.

## **MOOC**

A Massive Open Online Course or an open online course is an online course aimed at unlimited participation and open access via the Web. Early MOOCs often emphasized open-access features, such as open licensing of content, structure, and learning goals, to promote the reuse and remixing of resources. Some later MOOCs use closed licenses for their course materials while maintaining free access for students.

## **Open educational resources (OER)**

are teaching, learning, and research materials intentionally created and licensed to be free for the end user to own, share, and in most cases, modify under some licenses.





# IMPLEMENTING A TRAINING PROGRAM THROUGH E-LEARNING

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THE PROCESS FOR IMPLEMENTING A TRAINING PROGRAM THROUGH E-LEARNING SOLUTIONS USUALLY REQUIRES A PROCESS WITH RECOMMENDED LOGICAL PHASES FOR SUCCESSFUL RESULTS.

ADDIE is a general approach for a systematic instructional design approach used to develop effective e-learning courses. It is not a formal model with specific author, is more a colloquial term used to describe a systematic approach to instructional development, virtually synonymous with instructional systems development (ISD)<sup>3</sup>. It consists of five main steps that guide content creators and instructional designers through the entire process.

[3] Molenda, M. (2015). In search of the elusive ADDIE model. Performance improvement, 54(2), 40-42.



# Product Design Process

## Analysis

content creators gather relevant information and conduct a thorough analysis of the learning needs and objectives, understanding the target audience, identifying their learning preferences and requirements, and defining clear and measurable learning objectives. Additionally, the analysis phase involves identifying any existing resources or materials that can be leveraged for the e-learning course.

## Design

content creators and instructional designers use the information gathered in the analysis phase to create a detailed design for the e-learning course: the overall course structure, learning activities, assessments, and multimedia elements that will be used to engage learners effectively.

## Development

involves the actual creation of e-learning content using authoring tools and multimedia software to develop the learning materials, such as written content, videos, interactive elements, quizzes, and assessments.

## Implementation

the e-learning course is launched and made accessible to the target audience once uploaded, formatted and configured in the Learning Management System (LMS) or the platform chosen for delivery. Instructors or facilitators may be involved in guiding learners and providing support during the learning process. Learners can interact with the course content, participate in activities, and complete assessments as per their own pace and convenience.

## Evaluation

final phase involves assessing the effectiveness of the e-learning course in achieving its learning objectives, collecting feedback from learners, instructors, and stakeholders to identify strengths, weaknesses, and areas for improvement. Based on the results, it is necessary to address modifications and updates to enhance the course's effectiveness and overall learning experience.



# IMPLEMENTING A TRAINING PROGRAM THROUGH E-LEARNING

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It's important to note that the ADDIE approach is not strictly linear, and it allows for iterative and ongoing improvement. In a more formal way, it is relevant to mention the existence of a specific standard, ISO/IEC 40180, Quality for Learning, Education, and Training: Fundamentals and Reference Framework, where the processes of a Quality Reference Framework (QRF) for E-Learning are very similar to the general ADDIE approach:

- Needs Analysis
- Framework Analysis
- Conception/Design
- Development/Production
- Implementation
- Learning Process
- Evaluation/Optimization

Of course, ADDIE is mainly focused on the part of instructional design and content creation. The processes linked to e-learning also include other processes and steps such as:

**Learning Management System (LMS) Setup.** Installation, configuration and setup of required general features for hosting the e-learning courses, for allowing learners to access courses, track their progress, and interact with the educational materials. Maintenance of servers, platforms and other administrative and configuration tasks are essential for a proper support of e-learning.

**Learners Enrolment and Access.** Learners' accounts in LMS have to be created upon request of enrolment and they are provided with login credentials, granting them access to the course materials and resources.

**Tutoring, communication and support.** Learners may have questions or need clarification on certain topics or even mere technical or administrative troubleshooting. They need channels to seek help, either through discussion forums, email, or real-time virtual sessions.



Of course, the practical successful implementation of educational and training programs in any of the modalities covered by the concept of e-learning is not merely dependent on the availability of some resources, for example. It requires an adequate maturity and preparation of the corresponding supporting organisation in a wide set of factors involving software, hardware, connectivity, security, flexibility of the system, and technical staff and support according to systematic reviews of studies in the area of e-learning in higher education.



[4] Al-araibi, a. A. M., Mahrin, m. N. R. B., & Yusoff, r. C. M. (2016). A systematic literature review of technological factors for e-learning readiness in higher education. *Journal of Theoretical & Applied Information Technology*, 93(2).



The background of the slide is a photograph of a classroom. In the foreground, there are two empty blue metal chairs with wooden seats. Behind the chairs is a large chalkboard. On the chalkboard, the words "E-LEARNING" are written in large, bold, white capital letters. Above the text, there are three stylized virus or microorganism icons. The floor is made of light-colored wooden planks.

## SECTION 2

# E-LEARNING QUALITY FACTORS

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# COGNITIVE FACTORS IN E-LEARNING

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Cognitive factors such as information processing and retention impact the effectiveness of e-learning.

## **Key cognitive factors in online education include:**

**Attention:** the ability to focus on the learning materials and avoid distractions is crucial for effective e-learning.

**Memory:** e-learners need to encode, store, and retrieve information. Understanding principles of memory, such as working memory and long-term memory, can help in designing courses that optimize retention.

**Perception:** how learners perceive and interpret information presented in an e-learning environment can affect their understanding. Consideration of factors like visual design, layout, and multimedia elements is essential. Presenting information through multiple sensory channels (e.g., text, audio, video) can accommodate diverse cognitive styles and preferences.

**Comprehension:** understanding the material presented is fundamental. E-learning courses should be structured and presented in a way that aids learners in comprehending complex topics. Transfer of learning - the ability to apply what is learned in one context to a different context is a cognitive skill that should be encouraged in e-learning.

**Problem-solving:** encouraging critical thinking and problem-solving skills through interactive activities and assessments can enhance cognitive development.

**Metacognition:** self-awareness and self-regulation of one's learning process are vital. E-learners should be taught metacognitive strategies to monitor and adjust their learning strategies effectively.

**Adaptivity:** personalizing the learning experience based on individual cognitive abilities and progress can optimize learning outcomes.



E-learning professionals need to comprehend the **elements that influence these cognitive boundaries** in order to reduce cognitive overload for online learners and promote the best effective learning experience for their students.<sup>5</sup>

### **Amount of information**

[Miller's theory](#) suggests that our short-term memory has a limited capacity to store information, so dividing extended eLearning courses into smaller, more digestible modules or lessons is crucial. Instead of extensive text blocks, use bullet points, subheadings, and relevant images to enhance engagement with the content.

### **Exposure to information**

Regular review, recapitulation, and repetition of material are essential for improving memory recall. Spaced-out eLearning activities allow learners enough time to absorb and recall the material. Hermann Ebbinghaus' forgetting curve suggests that 90% of what we learn is forgotten within the first month, emphasizing the importance of studying and recalling material before this interval, as failure to do so can lead to full forgetting.

### **Managing attention span**

Various factors, including distractions, hectic schedules, and other elements, can directly affect the duration of our attention spans. Consequently, it is advisable to maintain a well-organized and uncluttered presentation of your eLearning content.

### **Reaching the long-term memory**

One way to improve memory retention is by linking new concepts to familiar ones through real-life scenarios and stories.

### **Emotions**

In eLearning, emotions such as stress and anxiety can significantly impact cognitive functioning. Positive emotions can increase knowledge absorption, while negative emotions can have the opposite effect. Therefore, it is crucial to create a supportive and optimistic learning environment for online learners. Using calming colors and images that evoke positive feelings can be helpful. It is also important to understand learners' interests and incorporate them seamlessly into the eLearning course design.

[5] [Cognitive Limitations Of Adult Learners In eLearning: 6 Factors To Consider](#)



# SOCIAL FACTORS IN E-LEARNING

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In e-learning, **social factors** refer to how interactions between people, group dynamics, and collaborative learning experiences can affect how well online education works and what results it produces. These factors have a big impact on the learning process and can create a more interesting and interactive environment for e-learning. Here are some important social factors to consider in e-learning:

**Collaboration:** encouraging learners to work together on projects, assignments, or discussions fosters collaboration and teamwork. Group work can enhance problem-solving skills and facilitate the exchange of diverse perspectives.

**Communication:** effective communication tools and strategies are essential for interaction among learners and between learners and instructors. Forums, chat rooms, video conferencing, and email are examples of communication channels in e-learning.

**Peer learning and peer feedback:** creating opportunities for peer-to-peer learning allows learners to teach and learn from each other. This can be achieved through peer reviews, discussion forums, or collaborative projects. Incorporating peer feedback into assessments and assignments can encourage learners to provide constructive criticism and learn from each other's work.

**Instructor presence, online tutoring and mentoring:** instructors can provide guidance, answer questions, and facilitate discussions to create a sense of connection and support. Providing opportunities for one-on-one or small group interactions with instructors or mentors can enhance the learning experience and provide personalized support.

**Community building:** establishing a sense of community within an e-learning environment can improve engagement and retention. This may involve icebreakers, introductions, and discussion boards focused on non-academic topics.



**Community building:** establishing a sense of community within an e-learning environment can improve engagement and retention. This may involve icebreakers, introductions, and discussion boards focused on non-academic topics.

**Synchronous activities:** incorporating real-time interactions, such as live webinars or virtual classrooms, can promote active engagement and facilitate immediate feedback.

**Social motivation and social accountability:** peer encouragement and support can motivate learners to stay engaged and persist in their studies, particularly in self-paced e-learning courses. Group projects and discussions can hold learners accountable for their contributions and participation, promoting a sense of responsibility.

**Networking opportunities:** e-learning platforms can provide networking opportunities that may benefit learners in their careers or academic pursuits.





Online collaboration makes e-learning more social and encourages more active participation. However, it might be challenging to find solutions to problems as a group or collaborate on projects in eLearning classrooms if everyone isn't online at the same time. In the next part, we'll go through a few suggestions for improving online collaboration in eLearning.<sup>6</sup>

### **Social media integration and collaborative apps**

Online learners are likely regular social media users, making integrating social networks into your collaboration strategy crucial. These platforms enable sharing tips, discussions, and feedback. Collaborative social media applications like Padlet, Miro, and Jamboard enable students to share information and collaborate on problem-solving, even when in different locations.

### **Feedback**

Feedback plays an essential role in online collaboration. To make feedback effective and impact collaborative learning, it needs to be timely, and continuous, and should primarily concentrate on the process rather than solely on the outcome.

### **Communication guidelines**

Online learners should have clear information about the frequency of required communication and the available online platforms. Create specific guidelines to eliminate any ambiguity and define expectations and responsibilities.

### **Challenging group tasks**

Another factor contributing to the success of collaborative online learning is the inclusion of a challenging task that team members can collectively tackle. This task serves as a focal point for the group, motivating them to schedule meetings, establish deadlines, and communicate via email, all with the aim of successfully and punctually completing the project.

### **Continuous improvement**

Online learners should have the freedom to express their opinions and concerns without fear of judgment. Regular online meetings can foster strong team dynamics by allowing them to share their opinions and suggestions. Surveys can help identify areas for improvement, such as improved collaboration tools or social media communities. This direct involvement encourages active peer engagement.

[6] [8 Factors That Promote Online Collaboration In eLearning, Collaboration For Online Learning Success](#)



# EFFECTIVE E-LEARNING TECHNIQUES

## ESSENTIAL FOR CREATING ENGAGING & SUCCESSFUL ONLINE LEARNING EXPERIENCES

---

|                                  |                                                                                                                                 |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Clear learning objectives</b> | Establish clear and precise learning objectives that outline the goals that students should achieve by the course's conclusion. |
| <b>Engaging content</b>          | Develop interactive, multimedia-rich, and visually appealing content to maintain learner interest.                              |
| <b>Interactive assessments</b>   | Use quizzes, assignments, and discussions to encourage active participation and assess understanding.                           |
| <b>Self-paced learning</b>       | Allow learners to progress at their own speed, providing flexibility to accommodate different learning styles and paces.        |
| <b>Regular feedback</b>          | Provide prompt and constructive feedback on assessments to guide learner improvement.                                           |
| <b>Personalisation</b>           | Tailor learning paths and content based on individual learner needs and preferences.                                            |
| <b>Mobile-friendly design</b>    | Ensure that the e-learning platform is responsive and accessible on various devices.                                            |
| <b>Gamification</b>              | Incorporate game-like elements such as badges, leaderboards, and rewards to increase motivation and engagement.                 |
| <b>Support and resources</b>     | Provide access to supplementary resources, such as reading materials, videos, and external links.                               |



|                            |                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------|
| <b>Clear navigation</b>    | Design an intuitive user interface with easy navigation to enhance the learning experience. |
| <b>Microlearning</b>       | Break content into smaller, digestible modules to improve retention and accessibility.      |
| <b>Instructor presence</b> | Maintain regular communication with learners, addressing questions and concerns promptly.   |
| <b>Data analytics</b>      | Utilise data analytics to track learner progress and make data-driven improvements.         |
| <b>Clear Instructions</b>  | Provide clear and concise instructions for all activities and assessments.                  |



Effective e-learning strategies should be adapted to the individual requirements and goals of the learners as well as the subject matter being taught. It's also critical to keep up with emerging technology and best practices in the field of online education.



# EFFECTIVE INCLUSIVE E-LEARNING TECHNIQUES

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Make online education accessible and accommodating to a diverse range of learners, including those with disabilities, different learning styles, and various needs.

## Accessible content design

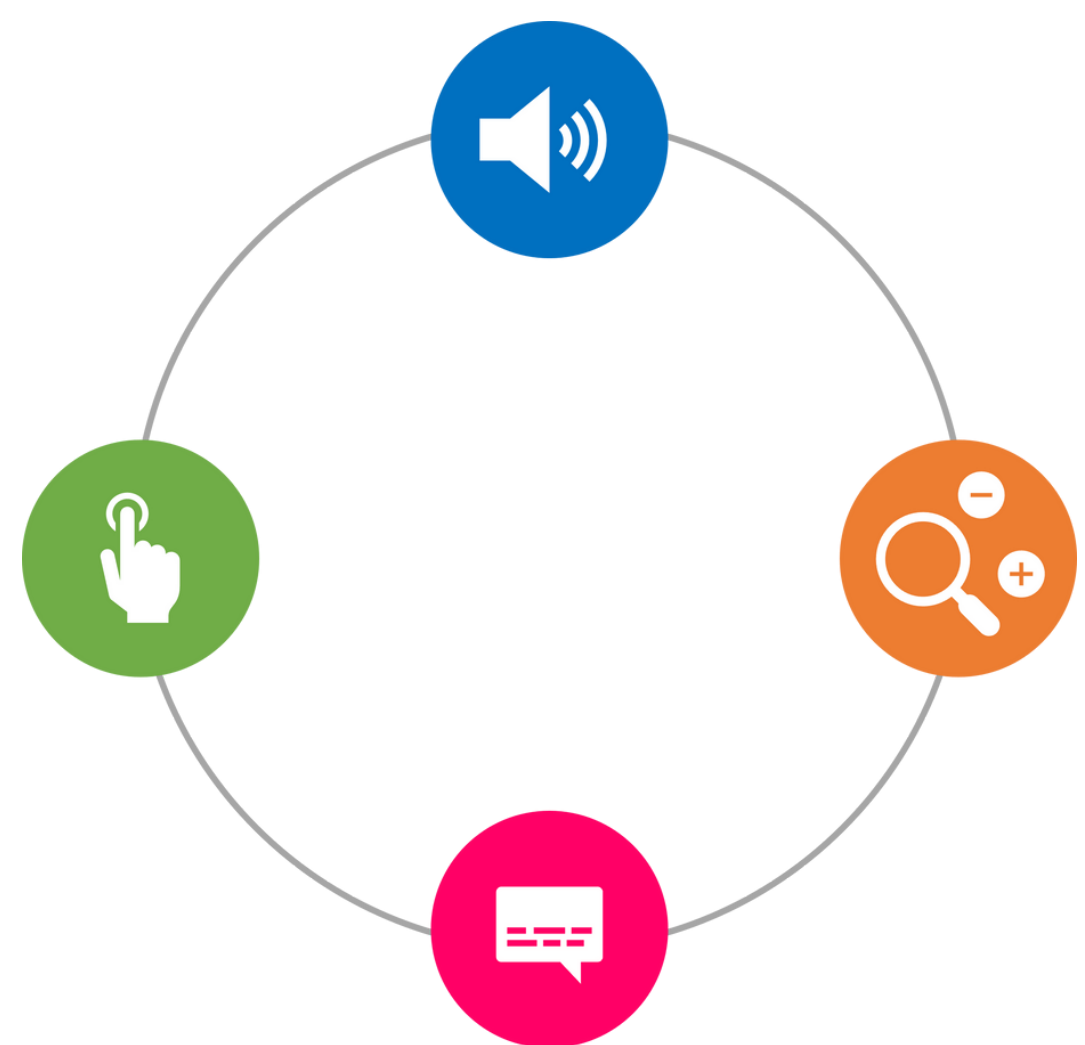
Ensure that all course materials, including text, images, videos, and documents, are designed to be accessible to individuals with disabilities. Use proper headings, alt text for images, closed captions for videos, and readable fonts.

## Multiple learning modalities

Present content in multiple formats to accommodate different learning styles. Provide written materials, audio recordings, and video lectures to cater to various preferences.

## Captioned videos

Include accurate and synchronized captions for all video content to assist individuals with hearing impairments and improve comprehension for all learners.



## Transcripts and descriptions

Provide transcripts for audio content and descriptions for visual elements to make content accessible to individuals using screen readers and other assistive technologies.

## Accessible Learning Management System (LMS)

Ensure that the chosen LMS or platform complies with accessibility standards and provides features for alternative formats and navigation.



### **Time extensions**

Provide flexible deadlines and time extensions for assessments to accommodate learners with disabilities or those who require additional time.

### **Sensory-friendly design**

Minimise distracting elements, such as excessive animations or bright colours, that can be overwhelming for learners with sensory sensitivities.

### **Peer support and interaction**

Promote peer collaboration and support by creating online communities or discussion forums where learners can exchange ideas and assistance.

### **Plain language**

Use clear and concise language, avoiding jargon or overly complex terms, to enhance understanding for all learners, including those with cognitive disabilities.

### **Supportive communication**

Foster open communication with learners, encouraging them to share their needs and preferences for accommodations.

### **Regular accessibility audits**

Periodically review and update course materials and platforms to ensure ongoing accessibility compliance.

**Tips and approaches for creating inclusive e-learning content.**

[Stanford University, 10 Strategies for Creating Inclusive and Equitable Online Learning: Environments](#)

[University of Oxford, Key steps for inclusive online teaching](#)

[Mentimeter, Inclusive Teaching: 5 Strategies & Examples](#)

Inclusive e-learning techniques aim to create a learning environment where all individuals, regardless of their abilities or learning styles, can access and engage with content effectively. These techniques not only benefit learners with disabilities but also enhance the overall quality of online education.



# SELF-REGULATED LEARNING SKILLS

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As educators, you may sometimes assume that adults have already mastered the art of self-regulation and can effortlessly manage their tasks. It is crucial to remember that self-regulation is a complex process influenced by several factors.

Fortunately, there are a few simple approaches that educators may use to improve self-regulated learning.

## **Clarify and establish deadlines**

Set clear deadlines for learning tasks, emphasize their importance, and encourage students to request extensions and send reminders about upcoming deadlines to avoid overlooking them.

## **Provide learning plans and time estimations**

Share examples of effective learning plans and provide average time requirements for tasks, such as crafting an essay, which typically takes two days with three hours of daily work.

## **Promote note-taking**

Encourage students to take notes on their learning process, reflecting on challenges encountered and identifying helpful strategies.

## **Demonstrate effective use of feedback**

Demonstrate the effective use of quizzes' feedback, assist students in identifying areas for improvement, and provide action plans for achieving these goals.

## **Implement a reward system**

Introduce a reward system that recognizes achievements at each step of the learning journey. Even adults appreciate positive reinforcement, such as extra points, encouraging feedback, or visual progress tracking.

## **Teach time management skills**

Share time management strategies, including the use of time blocks for learning, taking breaks from screens, or combining learning with routine tasks like household chores.



# EASE OF USE OF A TRAINING PLATFORM

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The phrase "platform's ease of use in e-learning" refers to how user-friendly and straightforward an e-learning platform or software is for both instructors and learners. It pertains to the overall usability and accessibility of the platform, including its interface, navigation, features, and functionalities.

Having a high level of user-friendliness in an e-learning platform means that both educators who create course content and students who access and interact with it can do so with ease and without encountering technical difficulties. It indicates that the platform is designed to be intuitive, efficient, and accommodating, enabling users to concentrate on the learning experience rather than grappling with the technology.

An e-learning platform's ease of use depends on its **intuitive interface**, user-friendly course creation and management tools, efficient content upload capabilities, accessible support resources, and clear instructions. These factors ensure users can navigate the platform effortlessly, even with limited technical expertise. The platform should also provide efficient content upload capabilities, accessible support resources, and clear instructions for various processes, such as assignment submission and discussion participation.

Moreover, a **responsive design** is critical, allowing the platform to adapt smoothly to various devices and screen sizes, and ensuring accessibility for learners using desktop computers, tablets, or smartphones. **Customisation options** for instructors to align the platform with their teaching style and content delivery preferences add flexibility and personalization. Lastly, a **stable platform** with minimal technical issues, including downtime and glitches, is fundamental to providing a seamless and uninterrupted learning experience. A platform's ease of use in eLearning centres on optimizing technology to be user-friendly and accessible, ultimately enhancing the overall learning experience for both educators and learners.



# ADVICES TO EDUCATORS & VET PROVIDERS

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When it comes to e-learning, quality is about more than just having the right technology. It's a complex process that involves a range of factors, from cognitive abilities to social dynamics, teaching styles, and technical capabilities. To create an effective and inclusive online education experience, it's essential to take all of these factors into account. Educators need to approach e-learning holistically, considering not just content delivery, but also the cognitive, social, pedagogical, and technical aspects of the learning experience. By understanding their learners' needs and preferences and designing courses accordingly, educators can create engaging and effective e-learning experiences that are tailored to their learners.



## SECTION 3

# STRATEGIES TO MAINTAIN STUDENT CONCENTRATION IN ONLINE CLASSES

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# INTRODUCTION

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To create innovative digital learning environments, we should shift from the traditional physical classroom to a more generic "learning environment." The OECD emphasised the importance of a **holistic learning model** that integrates different factors, rather than the common triangle of "learner (who), teacher/educator (with whom), content (what)", even before the COVID-19 pandemic<sup>6</sup>.

In this section, we will talk about **a learning space that consists of four elements: learner – teacher – content – resources (with what) and is designed to be an open, dynamic, and personalised environment focused on the needs of the learner.** It emphasises personal and autonomous learning, individual performance, and the ability to dedicate time to learning. E-learning allows learners to review video lessons, explore themes, and perform tasks repeatedly. They have access to constantly updated materials and contents, which can be modified at any time and from anywhere. An online document repository can be created to add or delete materials at any time.

Also, in the "learning space" there is not only the teacher as the main player, but other people are actively involved too, such as professionals of the different disciplines, thematic experts, peers, families etc. All stakeholders are highly encouraged to share knowledge and do things together (concept of "**learning culture**") In addition, when dealing with the learning space, we can generally build up a "**learning community**", precisely because of the multitude of individuals who are part of this new learning space.

Online learning therefore breaks down the physical boundaries of face-to-face participation, thus increasing the number of potential participants connected, having different backgrounds and learning experiences and needs. Moreover, in the online learning space, knowledge can be easily transferred, to be replicated in other learning contexts at local, national or international levels.

**Accessibility** for all and **transferability** of knowledge are therefore two key elements when it comes to online learning environments.

[6] [Innovative Learning Environments](#)



# FLEXIBLE & MIXED LEARNING ENVIRONMENTS





# FLIPPED CLASSROOM

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## OUT OF CLASS



At home, remotely, the learner listens to and memorises basic information, also making use of the material shared by teachers (texts, videos, articles) using specific digital platforms.

## IN CLASS



Once in class, in the presence of the teacher and with the other learners, group activities will then take place that will allow the learner to apply what he/she has previously learned independently at home and remotely.

## OUT OF CLASS



Learners check their understanding and extend their learning.



The classical pattern of traditional learning is reversed. The main objective is to create an appropriate balance between teacher- and student-led learning (through a self-regulated approach). At home, remotely, the learner listens to and memorises basic information, also making use of the material shared by teachers (texts, videos, articles) using specific digital platforms. In this way, asynchronously, the learner spends some time on autonomous learning. This time will be proportionate to his/her own personal and individual learning needs. Once in class, in the presence of the teacher and with the other learners, group activities will then take place that will allow the learner to apply what he/she has previously learned independently at home and remotely. The physical classroom is therefore used as a laboratory and discussion space, where learners come and work together in a collaborative spirit. It is therefore a type of **blended learning**, combining traditional teacher-led training and non-guided and autonomous online training by the learner.

To deal with the COVID-19 pandemic and the closure of many learning centres, the Council for the European Union highlighted the importance of blended learning by drawing up a series of recommendations available for all European education systems. Recommendation 12 highlights the multiple benefits of blended learning:

*“A blended learning approach can enhance broad competence development; due to the variety of learning tasks and tools it can encompass. The use of digital technology, including connecting devices online, can facilitate the interaction of the learner with other learners, learning programs, and other sources of information, and can support learning in different environments. The complementary use of scientific equipment, craft tools, realia (objects found and used in everyday life), published texts, and writing and visual arts tools, can support creativity and personal expression, both as an individual and collaboratively” (source: [COM/2021/455 final](#))*



# VIRTUAL CLASSROOM

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The learners meet online and exchange and learn through virtual learning platforms e.g. Google Classroom.

**Benefits:** promote active and independent learning, possibility to interact using innovative tools and interactive whiteboards such as Jamboard, flexibility in time (synchronous/asynchronous), reduction of costs related to the acquisition of printed learning materials (e-platform online and accessible for free to everyone) etc





# STATION E-LEARNING

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**The students are divided into three or more study groups and are allowed to develop their own knowledge. It is possible to administer it online, for example, by using Zoom breakout rooms.**

The idea is always that of the centrality of the learners, who will be at the centre of their learning process, as creators of new information in a sense "learning by doing" and not just passive receivers, in the many methods of online learning. As a result, the digital learning environment will be more engaging and dynamic than a traditional and static learning environment.

Furthermore, in an online learning environment, training information may be moulded and customized to learners' requirements, simplifying difficult content into more accessible ones, which can then be divided into one or more learning modules.

In general, the incorporation of blended learning into continuing professional development programs for teachers and educators, including VET trainers, should be strongly encouraged. This is because trainers should include more digital knowledge and online tools into their instruction, as well as experiment with alternative methods to utilize technology to help learners (e.g., utilizing e-materials, e-courses, e-mentorship, and so on).

**Online learning is often divided into three major phases.**



**Preparation**

The teacher introduces the theme, explains it in a summary manner and assigns the tasks that the students will then carry out independently.



**Implementation**

The student completes the work, does the research and tasks, and may also provide supporting material (for example, a written paper, a concept map, or a digital infographic) to showcase the knowledge gained. It incorporates the knowledge process as well as the conventional Bloom's taxonomy phases.



**Conclusion**

The teacher verifies the skills acquired and corrects the tasks and results produced. In a flipped classroom approach, there will be an intermediate step through the organization of face-to-face and laboratory activities involving the different learners.

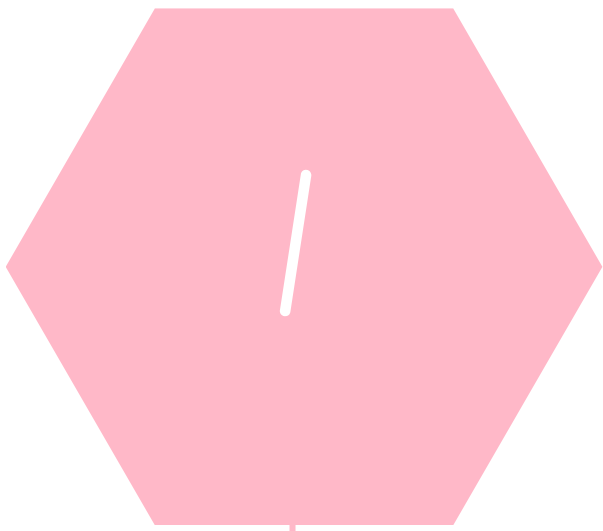




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**Ideas for designing  
engaging e-learning environments  
and online classrooms**



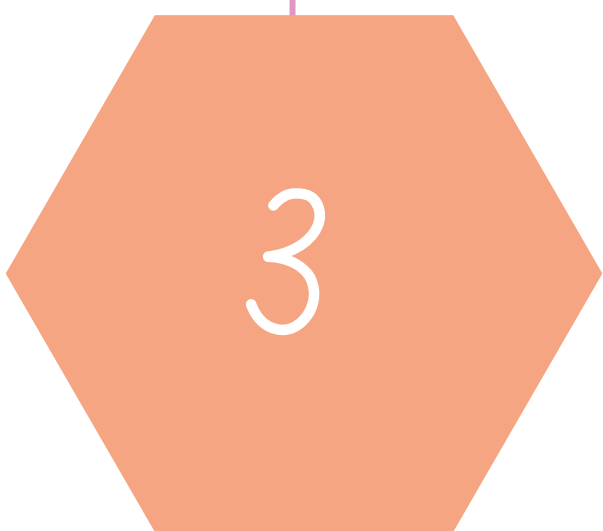
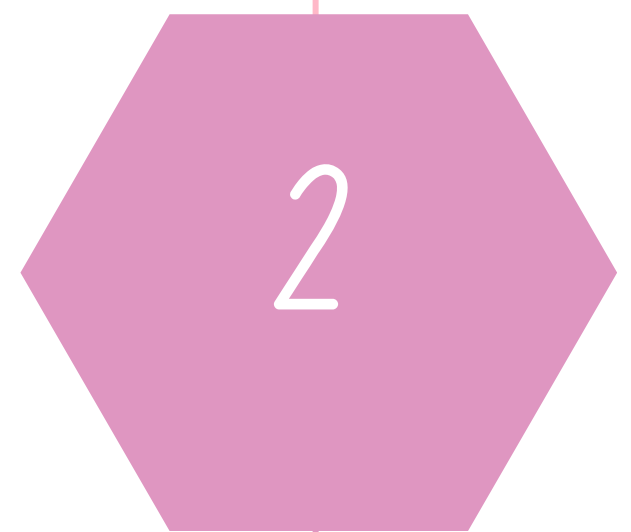


## **Training must be learner-oriented and not content-oriented**

Focus on "user-oriented" learning approaches rather than "content-oriented" learning approaches

## **Empower the learner**

By empowering learners, educators enable them to take ownership of their learning, become active participants, and develop valuable skills and knowledge.

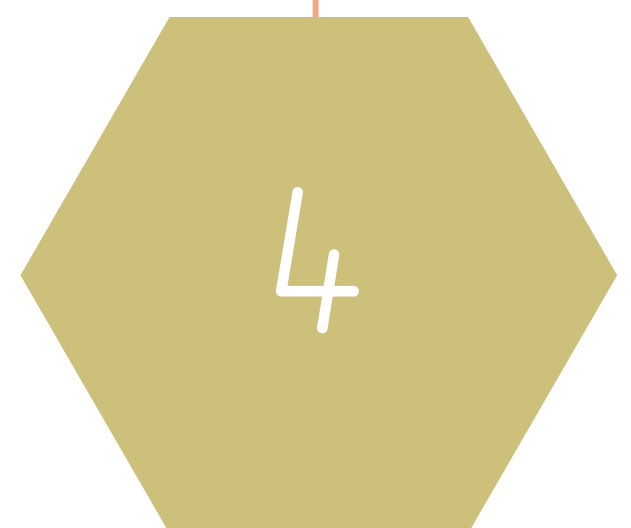


## **Consider the learner's interests.**

to avoid the risk of dropping out and loss of motivation

## **Stimulate curiosity**

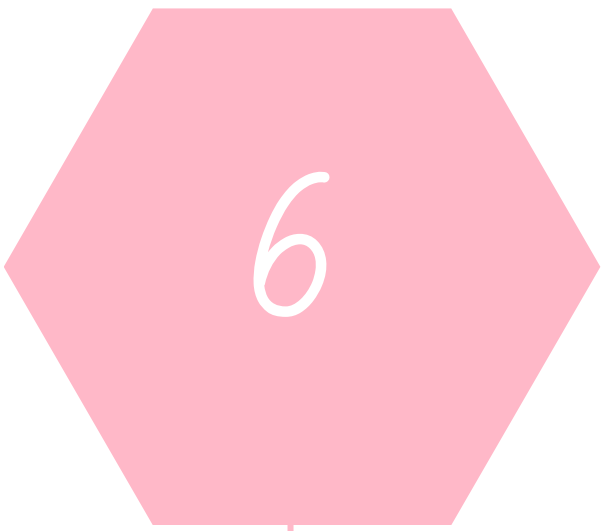
Allow everyone to be curiosity-driven and ask questions.



## **Empower the trainer**

Trainers should utilise digital schools for continuous improvement and lifelong learning. Collaboration among trainers is essential for exchanging experiences and expertise. Online learning environments support knowledge sharing among different educational contexts. The eTwinning platform and EPAL platform can be used to share materials and experiences among teachers in the EU. Trainers should constantly update their teaching strategies using digital resources and consider the individual needs of all learners.



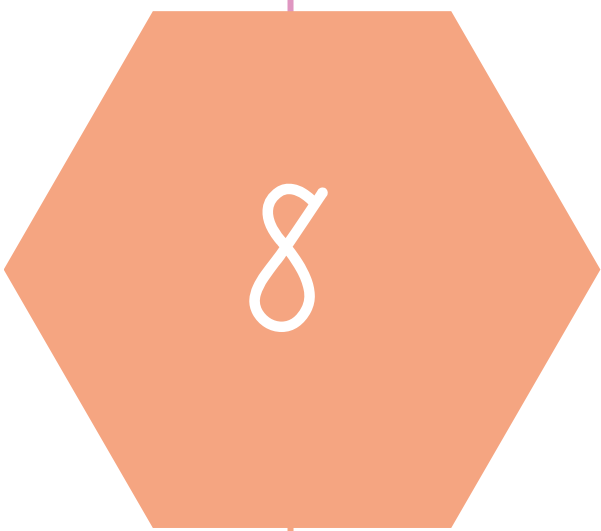
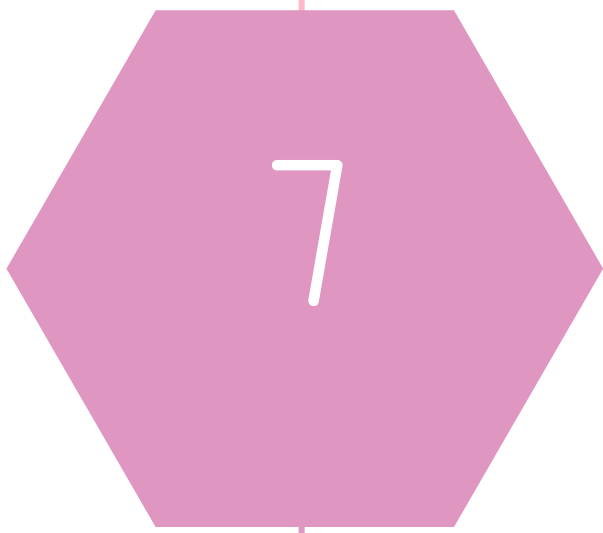


**Encourage intuition**

Create engaging and intuitive material for the learner

**Boost perseverance in learning**

building perseverance takes time and effort. Stay committed to your goals, and with practice, you will develop a strong sense of perseverance in your learning journey.

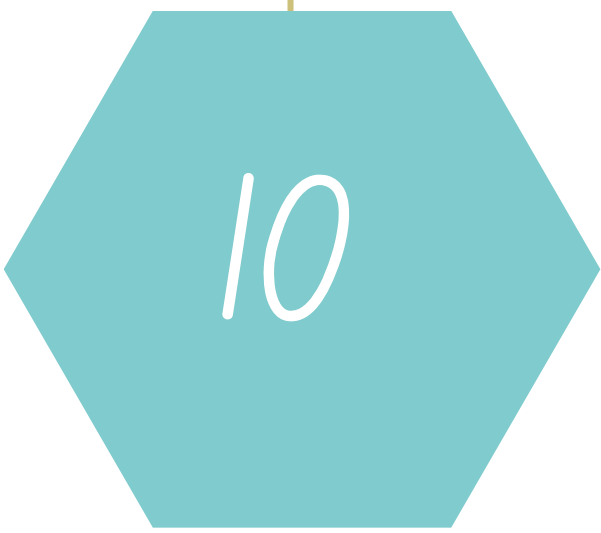


**Consider the learner's interests.**

to avoid the risk of dropping out and loose of motivation

**Create a safe online learning environment**

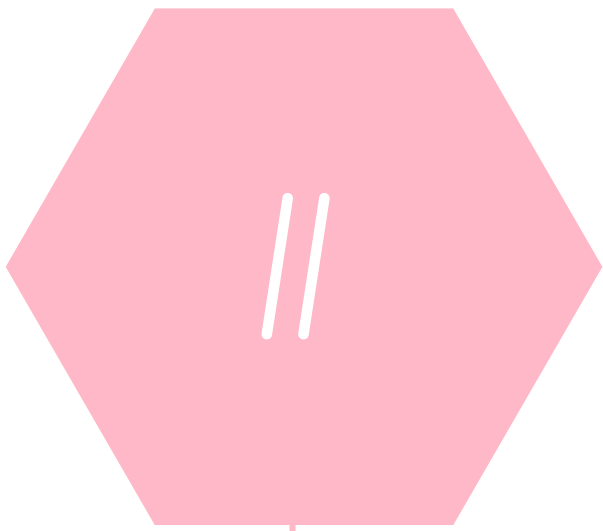
Promote digital safety and well-being by encouraging responsible use, preventing cyber harassment, and fostering content creation, communication, cooperation, and digital literacy among individuals and communities.



**Encourage people to interact**

To prevent isolation and distraction during online learning sessions, it is recommended to encourage group work and group presentations. To prevent excessive technological addiction, motivation and risk prevention are crucial. Introducing ice-breaking activities and energisers at the beginning of each session can help introduce the class and welcome learners.



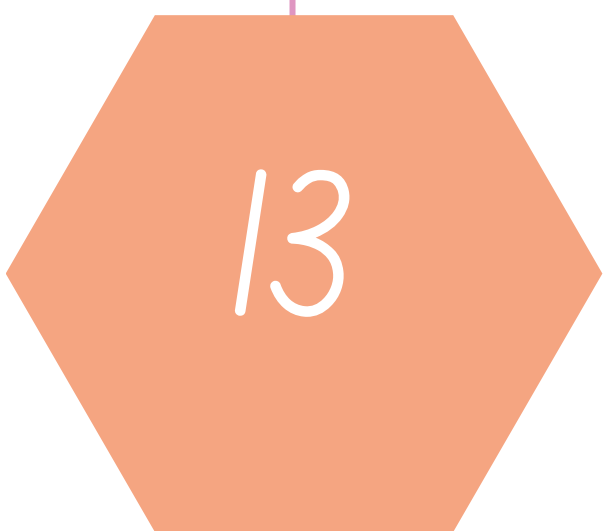
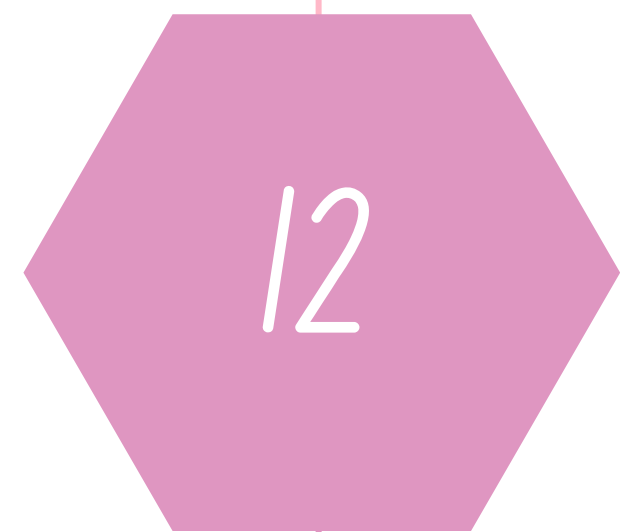


**Promote community-building emotions, avoiding exclusion and isolation.**

- Learners should feel part of a group and develop a common identity, and sense of belonging, to a learning community, even if they act remotely.

**Let people reasoning**

- to construct their learning and self-identify their learning goals.

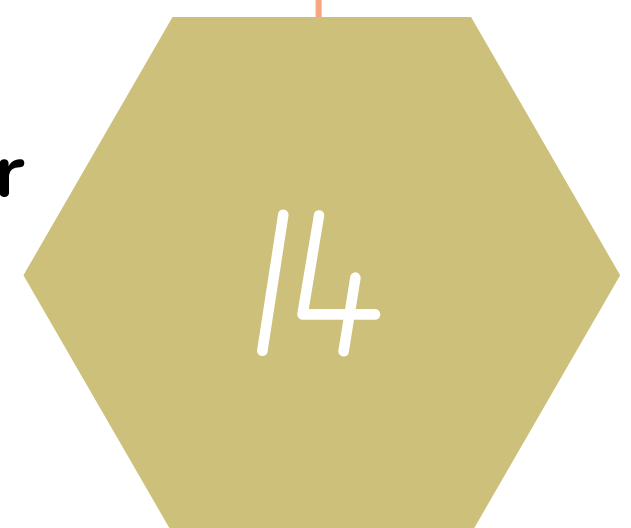


**Promote Constructivism and Experiential Learning**

- Allow individuals to learn via direct experience.

**Let people be analytical, critical in their reasoning**

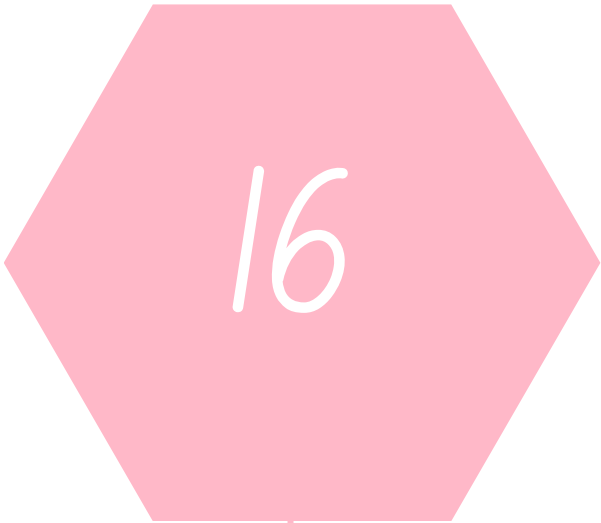
- and aware of their abilities (self-awareness)



**Let people communicate**

- with others, cooperate and be part of an online community/team (soft skills are important too when interacting online), encouraging them to create and share materials. Posting online and online journaling are highly promoted, as well as the participation of the learner in online polls, blogs, creation of video clips etc.





16

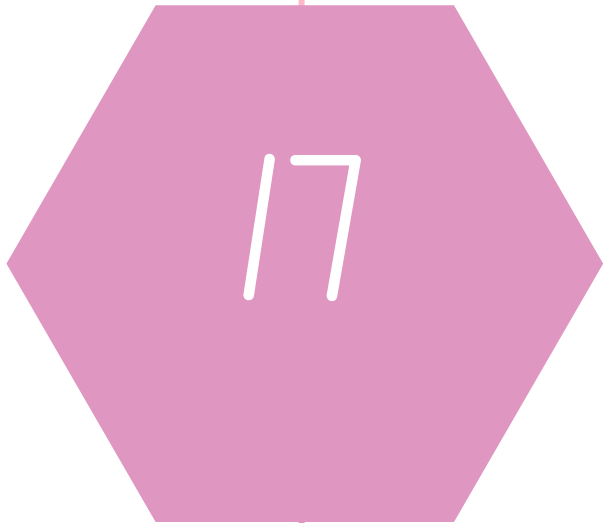
**Let people develop problem-solving skills**

as individuals and/or in cooperation with others (both in presence and online)

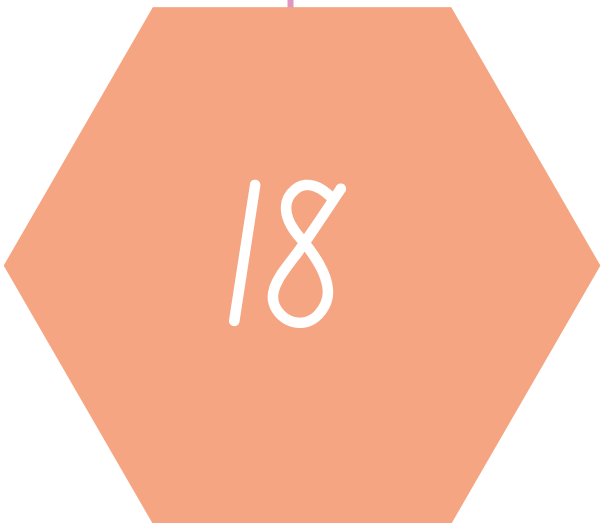
**Emphasise the importance of time**

**management**

to make people interested in and engaged in the learning process



17



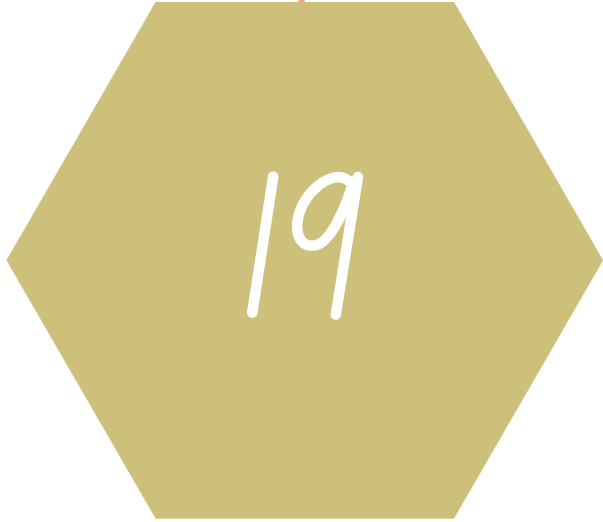
18

**Provide online self-assessment tools**

For example, the development of a competence spider to track the acquisition of a set of competences through time.

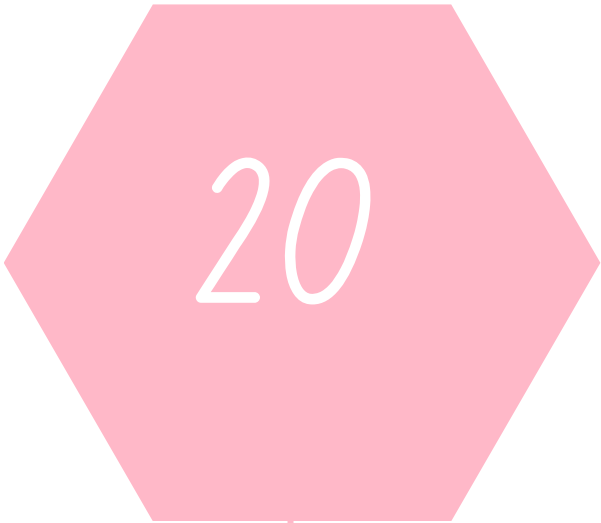
**Insert some learning games and simulations**

to create more engaging and less stressful online learning environments. Possibility to simulate a real-life scenario using VR, virtual reality, interacting in a three-dimensional way and using the mouse, keyboard etc. and even in some cases the movements of your own body (embodied games for learning and kinaesthetic games to recreate the so-called "Embodied Mixed Reality Learning Environments - EMRELE")



19



20

### Use the **POMODORO** technique

to manage time to alternate pomodoros (intensive work) with some breaks, e.g. give yourself some breaks and free time to disconnect when working online, and so to ensure you are not suffering from mental fatigue and stress in implementing online complex tasks or following intensive online learning sessions. For instance, if you are carrying out complex tasks (pomodoros) then you need to take some breaks before continuing. Another suggestion is to break down complex projects into smaller tasks and steps.

### Assess skills

by issuing online certificates: it is very common to assign "open badges" to collect the skills of an individual and the knowledge gained. They are very useful because they can contain a lot of information that could not be collected and transcribed on a title, or a printed certificate. Open badges are also available in Moodle platforms, to be issued to learners who completed a training course.

21

### Do you want to evaluate your abilities as a teacher/trainer?

Get inspired by the European Commission's "**SELFIEforTEACHERS**" online tools, used for assisting school teachers in setting up digital learning and managing digital technology. This tool can be used as a self-assessment tool by other teachers/learners.





## **EUROPEAN BODIES AND ASSOCIATIONS DEALING WITH ONLINE EDUCATION**

**European Digital Education Hub**

**European Association of Distance Teaching  
Universities (EADTU)**

**European Learning Network (ELN)**





## RESOURCES FOR CREATING MIXED (PRESENCE AND ONLINE) LEARNING ENVIRONMENTS AND VIRTUAL CLASSROOMS

[Google teach from home](#)

[Google Classroom](#)

[Moodle - Open-source learning platform](#)

[Microsoft Teams - Video Conferencing, Meetings,  
Calling](#)





**Tips to  
reduce stress &  
make online  
classes more fun**



# 6 Tips

## to reduce stress and make online classes more enjoyable

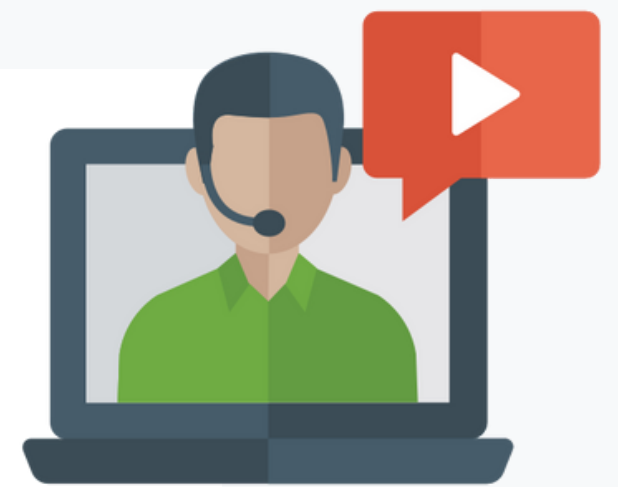


### Create interactive content

Utilise interactive content like videos, quizzes, simulations, and online activities to engage learners and conduct online polls for feedback and new ideas.

### Make a blend of visual and textual material

Utilize PowerPoint presentations and infographics to effectively communicate your message, simplify the subject matter, and enhance the engagement of your learners.



### Take breaks and allow time flexibility

Incorporate short breaks during longer sessions to give learners a chance to relax before being more focused for a new online session. Flexibility in time: standard 45/60-minute lessons are not recommended any more.

### Promote group activities and debates

Facilitate group activities, discussions, and breakout rooms like Zooms to promote social interaction and foster a sense of community in the virtual classroom.



### Encourage feedback from the learners

to make the learners more engaged in the online session, ask them for feedback and suggestions for improvements on a regular basis

### Propose constant support and constructive feedback

Offer timely and constructive feedback to your learners to help them understand their strengths and areas for improvement.





A close-up photograph of a person's face, partially obscured by a large, bright blue computer monitor. The person has light skin and freckles, and their eyes are looking towards the camera. A white, cloud-like thought bubble is superimposed over the lower part of the face and the monitor. The background is a solid blue color, likely the wall or the back of the monitor.

# **Learner-centred models in online classes**



# INQUIRY-BASED MODEL - IBM

The learner becomes the “inquirer” who carries out the investigation (in mixed learning environments), looking for useful information and solving problems in an autonomous way.

Learners collect their information independently, through online research to explore a problem and search for possible solutions. In a face-to-face activity, students will collect data and materials, including physical objects, and then conduct scientific investigations “the inquiry”, in the form of peer-to-peer learning workshops. You can also ask learners to review their work done so far if they are not working together on the same subject.

Some tips for the learner: perseverance, curiosity, risk-taking, emotion and participation in the learning process, sensitivity (if for example the activity is carried out in a group, then team building will be highly promoted), motivation (personal interest and intrinsic motivation as key elements for participation in the learning process), creativity (when looking for non-standardised solutions and try to solve a problem creatively and innovatively).

The Inquiry-based Model is mainly based on **constructionism**. Constructionism is a theory of learning based on the idea that humans use what they already know, to acquire more and more knowledge. During online classes, learners participate in the different lessons, remotely and in virtual mode and at the end of each e-learning session, tasks are assigned by the teacher. As a consequence, the learners will perform these tasks independently, in an autonomous way. There is no longer the presence of the teacher, physically in the classroom to dictate instructions and verify its correctness when implementing. On the contrary, when online, the teacher acts remotely and he/she is considered mainly as a coach/mentor.

In the IBM model, the learner personally conducts the inquiry that will be structured in some main steps, following the scientific method:

1. Observation
2. Formulation of questions and hypotheses
3. Evaluation of the hypothesis
4. Validation or rejection of the hypothesis, after implementation of the activities and testing of the prototype because of the hypothesis
5. Presentation of the results



# PROBLEM-BASED MODEL – PBM

The learners work on the analysis of a phenomenon and the possible way to solve it. The learner plays an active role in problem solving thus exchanging and sharing information with others. For instance, the trainer can assign a topic/a problem to be discussed and the learners discuss that and share materials using collaborative documents (e.g. Google Docs) and e-whiteboards (e.g. Jamboard, Canvas), sharing platforms such as Google Drive, Dropbox, and communication tools such as Skype, Zoom, FirstClass etc. **Collaborative learning** and **collective intelligence**, which emerges from cooperation among the learners, should be strongly promoted when looking for possible solutions to a problem

## Do not forget!

**1.The importance of assigning tasks:** the learners will work on a specific task, assigned to them, but the learning process will be carried out autonomously. They will be free to explore and experience and so to construct their learning pathway. In online learning environments, learners can take inspiration from different sources and subjects (cross-sectorial curricula) while avoiding standard and official curricula.

**2.The importance of set-up rewarding techniques.** Rewarding techniques for online learning can strongly motivate and engage learners. Recognizing and reinforcing positive behaviours can help create a positive learning environment and boost learners' enthusiasm for learning. Here are some rewarding techniques for online learning:

- *Digital Badges and Certificates:* digital badges or certificates can be delivered to learners when they achieve specific learning milestones, complete assignments, or demonstrate exceptional effort.
- *Leaderboards:* possibility to implement a leaderboard system to display the progress and achievements of learners. This can create friendly competition and encourage students to strive for the top spot.
- *Gamified Learning Activities:* Integrating gamification elements into online learning platforms, such as points, levels, challenges, and avatars can boost learners' motivation. Progressing through levels or earning points can give them a sense of accomplishment while improving their self-esteem.



# PEER-TO-PEER APPROACH IN ONLINE CLASSES

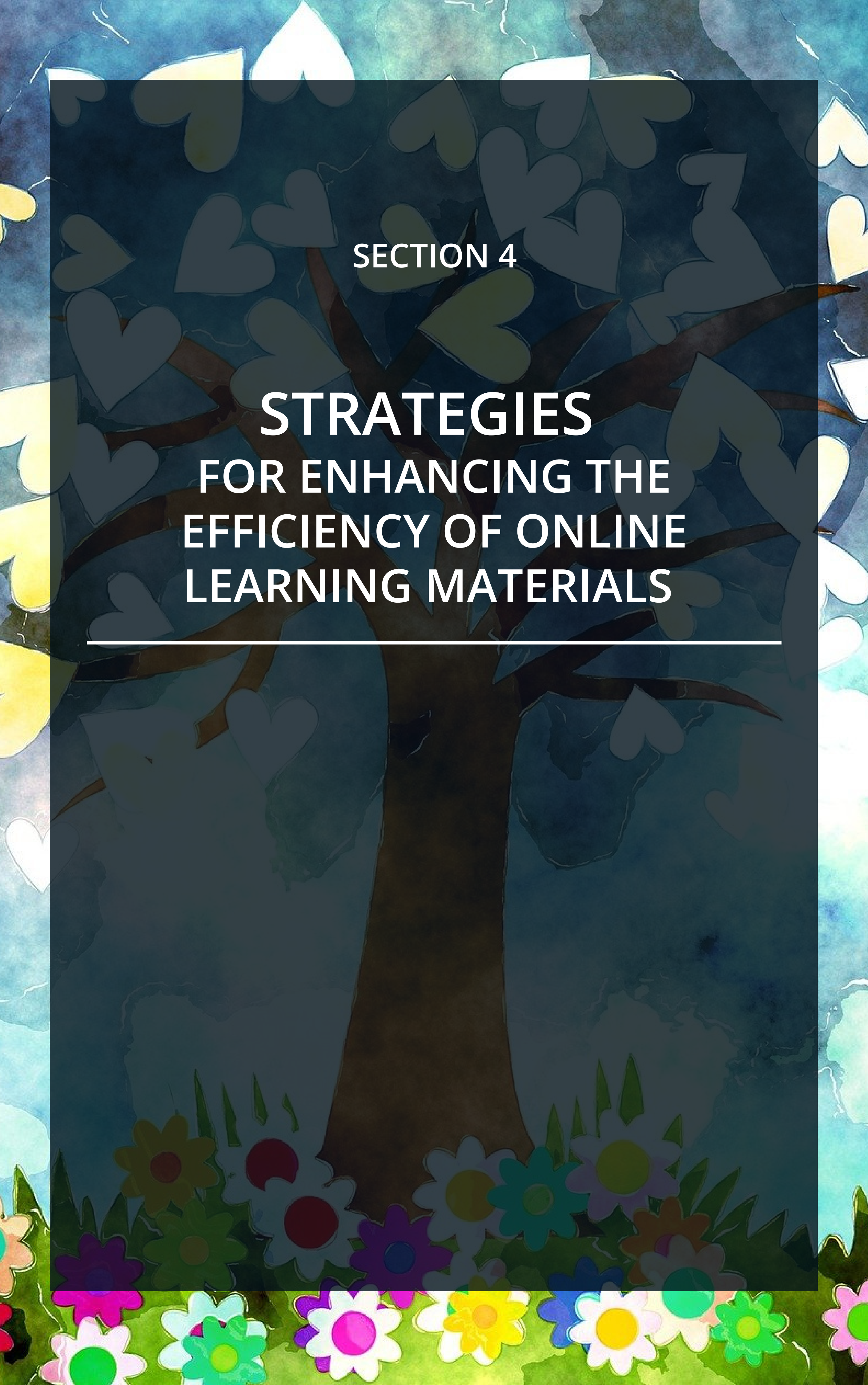
Peer-to-peer learning techniques, also known as collaborative learning or cooperative learning, foster active learning, critical thinking, and social interaction among the learners, creating a more engaging learning environment and it could be easily adopted both in-presence and online.

Some peer-to-peer learning techniques for online classes:

1. **Think-Pair-Share:** learners start reflecting individually on a question or problem. Then, they pair up with a classmate to discuss their thoughts. Finally, pairs share their ideas with the whole class. Possibility to use collaborative e-dashboards to share ideas when online.
2. **Jigsaw Technique:** divide a complex topic into smaller sections. Learners are then assigned to expert groups, where each group becomes an expert in one section. Afterwards, they mix back into new groups containing one expert from each section to teach what they learnt to each other.
3. **Group Projects:** assign learners to work in small groups on a project that requires collaboration, research, and problem-solving. This encourages teamwork and the sharing of diverse skills and perspectives. Possibility to use online dashboards and online tools to cooperate and share ideas.
4. **Peer Teaching:** allow learners to play the role of the teacher, presenting a topic to their classmates. This technique helps students better understand the topic while allowing them to learn from their peers.

All these main techniques can be implemented online, by using online platforms and tools that facilitate collaboration, such as shared documents, discussion forums, virtual whiteboards, and online Jamboard.





## SECTION 4

# STRATEGIES FOR ENHANCING THE EFFICIENCY OF ONLINE LEARNING MATERIALS

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# INTRODUCTION



Access to digital technologies and their use can reduce the learning gap among learners from privileged socioeconomic backgrounds and those from disadvantaged backgrounds. Personalised teaching and/or training techniques allow the trainers to tailor the specific learning needs of each learner and to provide individual help, boost motivation in the learner and focus on his/her specific learning goals too.

Since March 2020, the COVID-19 crisis has led educational and training institutions in Europe to close their doors and move quickly to distance/online teaching. The adaptation of education and training systems to the digital age has become a topic of major interest to the European Agenda and was an aspect reflected in the following initiative: The launch on July 1, 2020, by the European Commission of the new European Agenda of Competences for sustainable competitiveness, social equity, and resilience.







Reflection is a human ability, which consists of introspection and awareness of one's activity, behaviour, and actions. Reflective practice is an active, dynamic, action-based, and ethical skill set that takes place in real-time and deals with real, complex, and difficult situations.



# Five motivational factors

## motivational factors of self-reflection on teaching



01

- Mutual respect, adherence to rules, responsibility, and a spirit of justice are crucial for fostering cooperation and helping others.
- As many learning situations as possible, not related to assessment performance but achievement-oriented.
- Classroom or online learning climate with a strong positive effect in the areas of trainer-learner relationships, class cohesion and low levels of fear.



02

According to Meyer, an essential characteristic of good teaching is that total classroom time should involve the largest possible percentage of real learning. This can be achieved through good time management and punctuality.



03

Educational expectations should align with guidelines and standards, promoting professional and interdisciplinary skills acquisition by the learners. Educationally oriented feedback on progress is crucial for achieving these expectations.



04

These are in favour of an appropriate variation of teaching methods and social forms, oriented towards learner, topic and learning objective, as well as for a balanced combination of the main methodological forms.



05

Educational opportunities should promote autonomous learning, providing diverse opportunities for learners to discuss and learn, with genuine questions (rather than pseudo-questions) and freedom rather than limitations.



A dark, textured background resembling a chalkboard. The words "well done" are written in a light-colored, chalk-like font. The letters are slightly irregular and have a grainy texture, giving them a hand-drawn appearance. The word "well" is on the top line and "done" is on the bottom line, both centered.

well  
done

## ASSESSMENT FOR LEARNING (AFL)

A solid dark blue rectangular bar, positioned horizontally below the title.

Assessments help measure if learners are achieving their learning objectives and gaining the expected knowledge and skills. Evaluation should focus on informing learners about their learning outcomes to increase their performance. There are several forms of evaluation, including standard tests and questionnaires, but it could also be in the form of group discussion or peer evaluation.



# TRADITIONAL ASSESSMENT

Traditional assessment refers to standard tests, quizzes or assignments administered and completed in a controlled environment by the learners.

The **main characteristics** of traditional assessment are:

- + A predetermined format and a set of questions to be administered to the learner.
- + The very specific content knowledge to be assessed.
- + Individual work as learners complete traditional assessments individually.

In addition to standard tests and quizzes, learners can also demonstrate their understanding by using oral presentations and so to show the acquired knowledge verbally, in an oral way.

## — Limits —

Traditional assessment is very limiting since it allows a general understanding of very specific issues, answering predefined questions and does not allow the learner to demonstrate his/her more specific and sectoral skills, for example, critical thinking, creative thinking and problem-solving skills.

The traditional assessment therefore does not focus on how the learner demonstrates his/her full understanding and familiarity with a topic, or how he/she puts into practice a certain skill in everyday life.



# INFORMAL ASSESSMENT

Informal assessment mainly focuses on observing, discussing, and experiencing how the learner acquires knowledge and improves his/her skills. When referring to online learning environments, VET trainers can implement informal assessment by observing how learners interact with digital platforms, software, and devices as well as how they share content and interact with others when online. Informal assessment is particularly suitable for online learning sessions and includes:

## **Observation**

VET trainers should observe the learners in the way they navigate, share content and exchange with other people when online

## **Task-based scenarios**

VET trainers can set up specific scenarios or assign specific tasks that require the use of digital tools by the learners. For example, they can ask them to search for information online, create a document, or share data. It is important to observe how learners deal with these tasks and act in an online learning environment. Learners could be also invited to share and showcase something using digital tools, to assess their proficiency and creativity.

## **Self-assessment**

VET trainers can encourage learners to self-assess their skills, by providing them a list of competencies to be fulfilled and asking them to rate their comfort level and proficiency in each of these specific competencies.

## **— Limits —**

informal assessment is less structured than formal assessment, and it provides a more holistic view. Moreover, informal assessment often provides only a snapshot of a learner's skills or knowledge. As a consequence, informal assessment may not highlight the full range of a learner's skills or knowledge, thus missing important details. However, it could strongly help VET trainers in identifying any strengths and areas that need to be further developed, thus providing targeted support and tailored learning opportunities to adult learners. In fact, in the informal assessment, the answers and feedback are less standardised and structured than in the formal assessment. Therefore, it will be easier for VET trainers to identify the specificities of each learner and meet his/her specific learning needs, adapting and calibrating training offers and training materials.



# DYNAMIC ASSESSMENT

During online learning sessions, it is also suggested to focus on dynamic assessment.

In dynamic assessment, VET trainers evaluate a learner's ability to learn and adapt to new information and changing scenarios, rather than just assessing predefined knowledge and skills (through standardised questionnaires and quizzes), or evaluate the performance itself.

Dynamic assessment mainly focuses on how a learner learns, identifies obstacles to learning, and provides targeted interventions to address those obstacles. Therefore, it's a process-oriented approach, i.e. the focus is focus on the learning pathway in all its steps, and not a performance-oriented approach, i.e. mainly focusing on the final acquired knowledge and skills, and high-quality performance.



# COLLECT FEEDBACK

## FROM LEARNERS

Getting feedback from learners is important for evaluating the effectiveness of online learning sessions and, if necessary, for adapting/redesigning the learning content and resources.

VET trainers can utilise several methods to collect feedback from learners during online learning sessions.

1 Use digital tools and platforms that provide immediate, interactive feedback, such as real-time polls and quizzes, for a more interactive and efficient learning experience.

2 Use online feedback forms and surveys (e.g., Google Forms)

3 Use shared documents, online boards, jam boards, and multimedia elements to enhance communication and skills acquisition in a written, interactive, and visual manner.

4 Social media and forums allow a very advanced interaction between learners who will exchange opinions, share their doubts, and ask questions.

5 Use gamification to encourage learners to provide feedback and actively respond, while also fostering competitions and challenges to showcase their skills.



# ACTIVE LEARNING

## 3 steps approach

1

### **Encourage collaboration and debate.**

Debates provide learners with the necessary context to train or practise their public speaking skills, an important skill for the educational process and beyond.

Active learning involves working together with others. The trainer's role is to guide, support and ensure that the purpose of the activity is met.

### **Promote learning through role-playing.**

Role-playing is a very good way to develop problem-solving skills, support the process of self-knowledge and facilitate group cooperation. In the Cambridge Dictionary, role play is presented as a tool through which the learner can practice empathy, and creativity and find solutions to real situations.

2

### **Enhance critical thinking**

Active learning promotes learners' critical thinking and aims to stimulate moments of reflection during activities. Allowing a thinking time in which the learner can find, outline, or express an answer regarding a given situation is the first step towards outlining a didactic process based on active learning.

3



# MICROLEARNING

In a changing world like the one we live in, where every day it is necessary to learn something new and relatively quickly, microlearning becomes a useful learning strategy in this sense.

The term microlearning is a new one but already well-defined. All educational materials that are made according to this concept have one essential characteristic in common: they concisely present information. Here we mean small learning units (lessons, steps, courses, etc.) or short-term learning activities.

Specifically, microlearning is a phenomenon of acquiring knowledge in an ICT field (Information and Communication Technologies), which allows flexible learning, at any time and place.

The final objective is training, updating, and acquiring personal and professional knowledge and skills. That is, both in informal and formal, daily and work environments.

Microlearning involves:

1. **structuring content** into several smaller pieces (in terms of volume and/or time), which are accessible to the learner, making the learning process more "digestible". For example a chapter of a textbook is compressed and focused on several short lessons.
2. **the content itself** can take many forms, but it is important to keep it short. Here are some examples of content used in microlearning: text in short sentences, images (pictures, illustrations), short video lessons of a few minutes, audio content (music or podcast), quizzes and multiple-choice questions, or digital games.

## Tips on how to make full use of microlearning

- ✓ Microlearning lessons require a short attention span, so take advantage of them.
- ✓ Learners prefer microlearning because of the way of presentation, so you should integrate it into the teaching process.
- ✓ Promote the idea that learners have the freedom to learn when and where they want.
- ✓ Increases information retention.



# STORYTELLING

Storytelling is a useful teaching technique that can be incorporated into online learning sessions as it involves the use of personal (related to real life) or impersonal stories to engage learners and see how they can reproduce the stories they are listening to and abstract concepts to be used in practical/real-life situations. The storytelling process involves exploring and collecting data (the information to be used), then making a story by establishing logical connections to develop the flow, and the narration itself.

Moreover, storytelling makes the learning experience more dynamic. It easily helps learners to share experiences, and explain events and phenomena, while stimulating their communication skills and emotions, fostering their emotional engagement.

When online, storytelling can be digital. Digital storytelling includes the use of digital media to create digital media content and narrations through the use of multimedia. Media may include full-motion videos with photos, sound, animation, stills, audio, etc., which learners can use to tell a story or present an idea, through demonstrating their ability to create and manage digital content and digital tools too. The use of multimedia in digital storytelling encourages learners to communicate meaning on multiple levels thus avoiding verbal written language.

There are different ways to create narrations through digital storytelling.

Creation of **short-term video clips, short-term-animated videos** etc. while using online tools such as PowToon for animated videos or simply, using TikTok and Instagram video-sharing social networking services.

Creation of **digital maps** which can be used to narrate a story, while inserting spatially related information and letting the learner boost their knowledge about the world and imagination.

Creation of **digital stories** through drawing and pictures, using an e-platform for digital drawing.

Creation of stories through using radio storytelling.





# GAMIFICATION

Gamification has attracted much attention because of its potential to motivate and engage learners by capturing and retaining their interest, attention, and engagement to become active in their experiential learning process. Gamification engages the learners and motivates them because of the objective pursued. Thus, if learners have a positive attitude towards the learning process and know that they will be rewarded in some way for their efforts, they transform from passive observers to active participants, engaging in long-term memory.

Gamification is one of the latest trends in education, whereby pupils and learners acquire knowledge through play. This method involves the use of game mechanics and game design elements in the teaching-learning-assessment process.

You will find more information about Gamification in [Section 6](#).



# DIGITAL COMMUNICATION

Digital literacy is an essential skill for both trainers and learners in the 21st century and so, it should be highly promoted.

## **Did you know that the number of people going online increases every year?**

Multimedia systems create an effective educational environment, combining information presentation, causal relationship explanation, and problem-solving with video demonstrations and computer-assisted training. They allow learners to explore both real and virtual worlds through the internet.

Integrated into the educational system, the Internet offers the trainers and the learners a wide range of facilities, such as:

- electronic mail
- internet browsing
- participation in information groups/chat rooms, which allow them to exchange messages with each other, and to have some discussions.
- IRC-Internet Relay Chat method, as a possibility to "discuss" "on the screen", to have a written dialogue with speakers of another language.
- "adventure games" in which the participants act in an imaginary scenario.

E-learning allows itself to operate with a wide variety of learning media: text, graphics, static and animated images, sound, and short films. The messages are presented in a multimedia form: *print = texts on electronic media (books, electronic magazines), web, CD-ROM, diskettes, online courses, video, audio, control and exams = electronic, interactive, paper, asynchronous communication = e-mail, chats, weblogs, discussion boards, synchronous communication = chat, video conferencing, teleconferencing, online meetings.*

E-learning environments enable interactivity, monitoring, simulations, and subgroup work, allowing learners to choose courses suited to their learning style, supporting distance education.



## TO KNOW MORE

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## SECTION 5

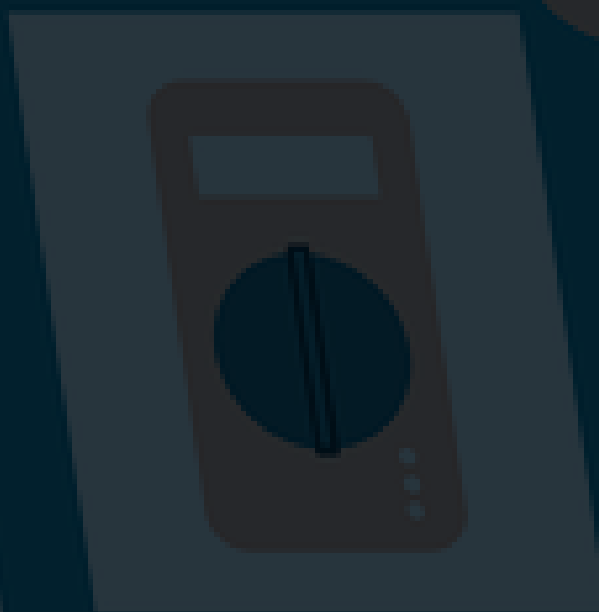
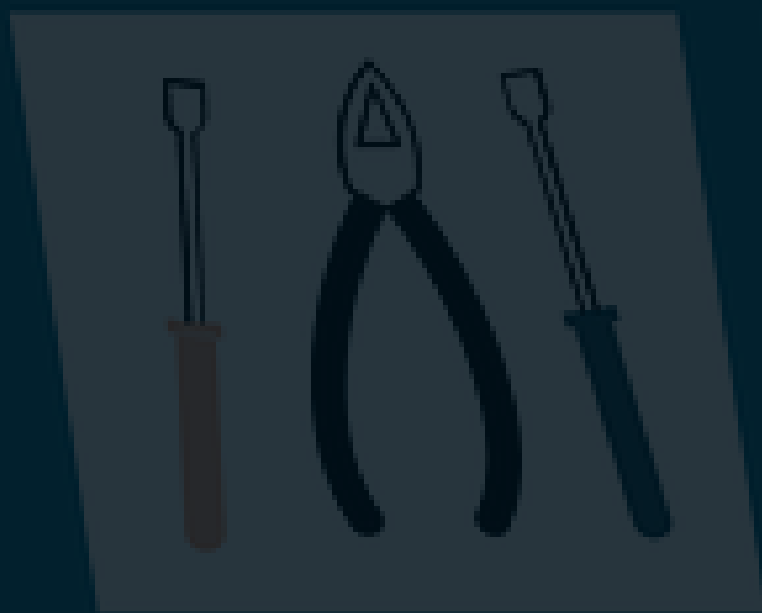
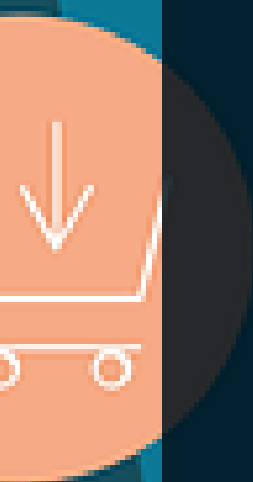
# USEFUL TOOLS

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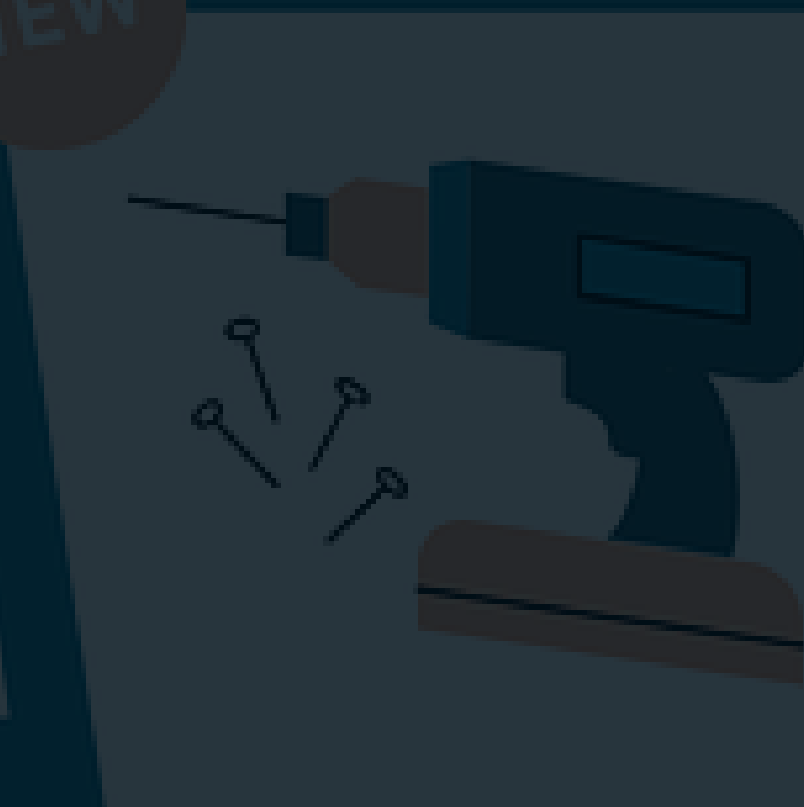
FOR STRATEGIES TO MAINTAIN STUDENT  
CONCENTRATION IN ONLINE CLASSES

&

FOR STRATEGIES TO INCREASE THE  
EFFECTIVENESS OF ONLINE LEARNING  
MATERIALS



NEW





# TOOLS FOR FLIPPED & ONLINE CLASSROOMS

## KHAN ACADEMY

The platform provides thousands of hours of video lessons designed to support young learners, allowing them to progress at their own pace and complete their homework.

## POW TOON

This tool allows educators to make professional presentations with animations using a simple interface that beginners without animation skills can learn.

## SAKAI

It is an open software with various online collaboration tools such as email, chat rooms, polling tools, and a slide show presenter for efficient communication.

## GOOGLE HANGOUT

A a cross-platform instant messaging service developed by Google. It is an effective tool for learning, communication and engagement.

## BOOKWIDGETS

A platform that allows educators to create interactive lessons, with ready digital templates and interactive exercises, like riddles, puzzles, web quests, etc.

## EDPUZZLE

This tool allows educators to enhance learners' critical thinking by making videos interactive with audio and questions.

## LOOM

A screen-capturing software that allows educators to make instructional videos. The communication with learners becomes more personal.

## COMMONLIT

It is a database with literary educational materials. Educators can create lessons, share them with the learners, assign questions and evaluate their performance.

## GOOGLE CLASSROOM

A free educational software for educators that allows them to conduct online classes, invite your students, and assign homework.

## CLASS123

An online tool for classroom management that contains a chalkboard, seating chart, timer, random name picker, and many other interactive features.



# INQUIRY-BASED LEARNING TOOLS

## EBOOKS AND AUDIOBOOKS

Inquiry-based learning is interconnected with online books, written and audio. Think of it as an online library with books you have chosen yourself, available for searching for information at any time.

[Amazon Kindle Store](#)

[Project Gutenberg](#)

[LibriVox](#)

[Apple Book Store](#)

[Open Library](#)

[BookBub](#)

[Free eBooks](#)

## VIDEO ANNOTATION TOOLS

With these tools, you can replace the chalk!

You can now show and tell in an engaging manner, with little annotations your arguments and observations. You can add text to your educational videos to create quizzes, design video lessons, provide feedback to students and create digital storytelling lessons.

[WeVideo](#)

[Kapwing](#)

[FlexClip](#)

[Canva](#)

[Adobe Express](#)

## CONCEPT MAPPING TOOLS

With these tools, you can visualise your thought, ideas and research findings, connecting concepts and topics. These will provide the learners with non-linear visual stimulations and will help them externalise their knowledge.

[MindMeister](#)

[Miro](#)

[MindMup](#)

[Coggle](#)

[Google Drawings](#)



# PROBLEM-BASED LEARNING TOOLS

## PADLET

It acts as an online bulletin board where students may share ideas, pictures, videos, and other media. Padlet is an ideal starting point for problem-based learning because students can submit research questions and the solutions they identify as they research.

## EDUCURIOUS

It is a website with assisting applications that attempts to transform learners into "developing experts" by connecting them with real-world mentors.

## TED ED

It assists students in gaining insight into real-world challenges. The site's collection of interesting videos works well to motivate students to want to learn more and take the initiative, both of which are required components for problem-based learning.

## NEWSELA

It is a website that contains articles from numerous prominent publications for different reading levels. It encourages students to think critically and ask important questions about the world around them.



## STRATEGY: ACTIVE LEARNING

### ANKI METHODOLOGY

The Anki methodology allows the student to consolidate the most important concepts of learning material in his or her memory, but without using a traditional systematic memorisation procedure but using flashcards to memorise or learn content instead. These flashcards will be shown to the student with varying frequency, taking longer to ask the student again if a correct answer is chosen and less time if an incorrect one is chosen.

Recent studies have shown that the use of the Anki methodology helps the student obtain a higher score on assessment tests, increasing the perceived sense of retention of acquired knowledge (Lu et al., 2021).

Other studies evaluated the students' feelings about the usefulness of these flashcards for studying, where a large percentage of students in the sample analysed believed that the flashcards are very useful for studying or reinforcing acquired knowledge, also reducing the feeling of anxiety (Rana et al., 2020).

These cards can be implemented using a free cross-platform application that students can install on their computers or mobile phones. This application is called Anki, and has [desktop versions for Windows, Mac and Linux](#) and [versions for Apple \(AnkiMobile\) and Android \(AnkiDroid\) mobile devices](#).

## STRATEGY: MICROLEARNING

You may find available platforms or tools on the Internet, either free or paid.

[7taps](#)

[Qstream](#)

[Talentcards](#)

[ShotClasses](#)

[LearnUpon](#)

[Master-O](#)

[EduMe](#)

[EdApp](#)

## STRATEGY: STORYTELLING

A good storytelling tool should allow you to add text, audio, video, or interactive elements to your data information and should support the logical and consistent structuring of those stories.

[Canva](#)

[Visme](#)

[Skyword](#)

[Infogram](#)



## SECTION 6

# GAMIFICATION

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# GAMES & GAMIFICATION



## THE CONCEPT OF A GAME

Sid Meier, a game developer and designer, gave one of the most well-known definitions of what a game is, stating that "a game is a series of interesting and meaningful choices made by the player to achieve a clear and exciting achievement."

A "combination with well-defined goals and rules" (Groh, 2012), "a set of activities involving one or more players" (Dempsey, Haynes, Lucassen, & Casey, 2002), or "a system in which players engage in an artificial conflict, defined by rules, which leads to a measurable outcome" (Salen & Zimmerman, 2004) are other definitions for the game.

Some time later, Salen and Zimmerman thus state that a game is a system in which players engage in an artificial conflict that is determined by a set of rules and leads to a quantifiable outcome.



# CHARACTERISTICS OF GAMES

All games have 4 characteristics

**01 A goal**  
Players use their skills to achieve a particular end point, not necessarily to win.

**02 A set of rules**  
The rules provide both descriptive and definitive frameworks on how the goal is to be achieved.

**03 Restrictions**  
Rules about what is not allowed during the game.

**04 Requirement for players to accept rules**  
Acceptance of the constitutive rules.





# THE CONCEPT OF GAMIFICATION

The first documented use of the term "gamification" was in 2008 (Deterding, Dixon, Khaled, & Nacke 2011), where it was defined simply as the use of game design elements in the non-game environment. Since 2008, gamification as a concept has been expanded and defined by others in many ways.

A simple explanation is the following: "Gamification is the process of integrating game elements into non-game contexts, such as a website, an online community, a learning management system, or corporate intranets, in order to boost engagement".

It may also be described as a collection of methods and procedures for addressing problems through applying or implementing the mechanisms of a game.

Gamification's goal is to encourage people to interact with the content, especially with less pleasurable tasks like compliance training or in-depth training programs. By combining game design features, it enhances the enjoyment and engagement of work.

*Alternative names of gamification are:*

*Motivational design*

*Gameful thinking*

*Everyday games*



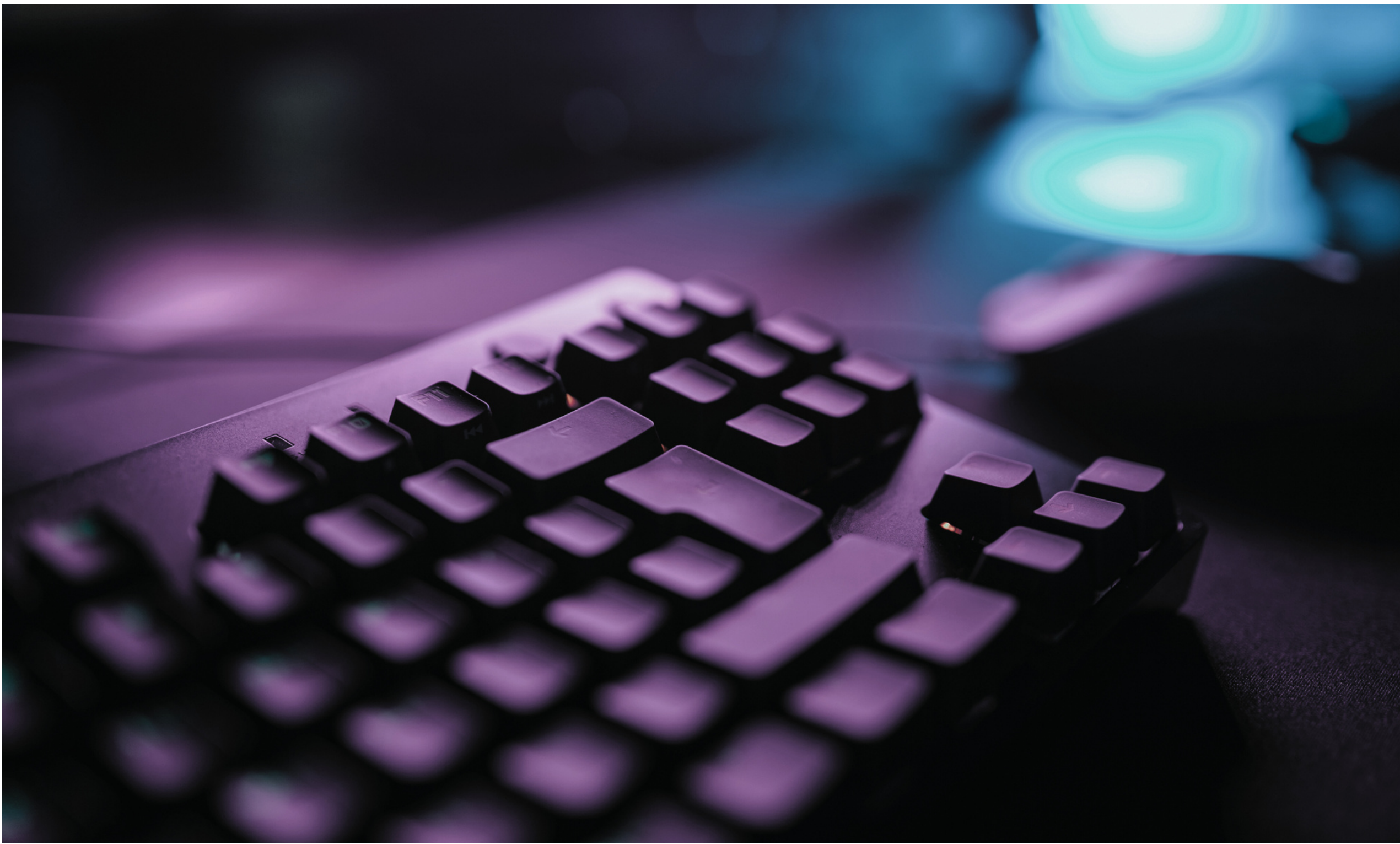


## GAMIFICATION VS SERIOUS GAMES

A serious game or applied game is a game designed for a primary purpose other than pure entertainment. Serious games were created when the US government and military started looking for simulation games that were low cost, but interesting and accurate. These games aim to train users in real-life incidents and procedures.

**Serious games and gamification are not the same. Serious games have the fun element and the educational element** at the same time and those elements are equally important. On the other hand, **gamification refers to game techniques applied in non-game contexts** without the concept of a game as such.





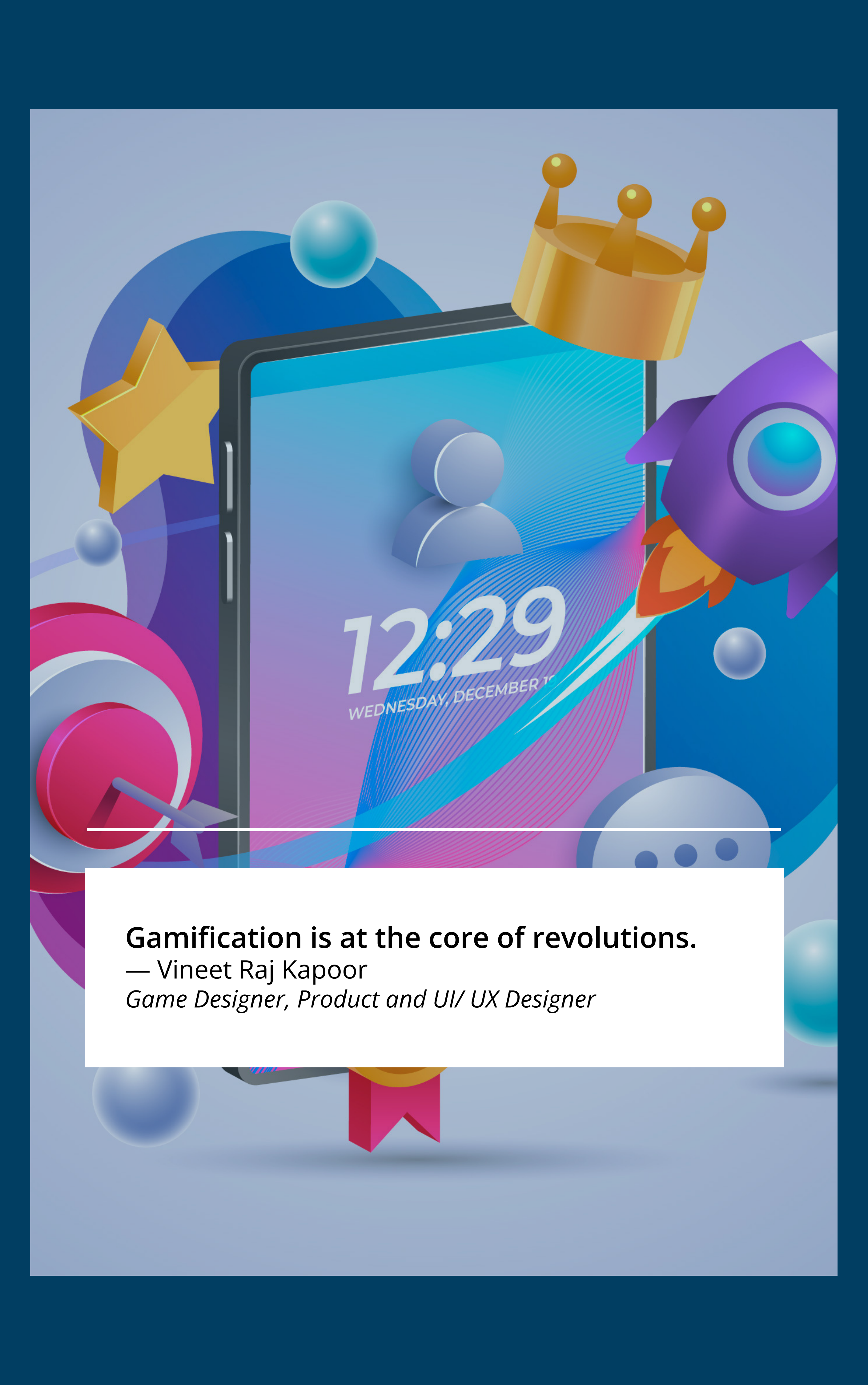
## GAMES VS GAMING VS GAMIFICATION

**Games** are computer-simulated applications that provide users with entertaining and enjoyable digital interactions. They keep the mind actively engaged in a virtual world and can serve as a social catalyst for engaging in respectful competition while interacting with others.

**Gaming** is playing electronic video games on a computer, smartphone, or special gaming console. These electronic games are usually designed by game developers for entertainment and a positive gaming experience of gamers.

**Gamification** refers to the use of e-learning activities and modules to motivate online students to perform better in a particular subject. For instance, in order to advance to the next level, online students must successfully finish an e-learning program. This encourages healthy competition, and the desire to learn from the experience strengthens.





12:29  
WEDNESDAY, DECEMBER 10

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**Gamification is at the core of revolutions.**

— Vineet Raj Kapoor

*Game Designer, Product and UI/ UX Designer*



# BASIC PRINCIPLES OF GAMIFICATION

## REWARDS

A reward system increases participants' sense of loyalty and fosters pleasant feelings that motivate them to carry out the action again or perform better. Similar to what a player would earn for their actions within a game, the reward system might involve accumulating points for accomplishing a certain task or badges at certain milestones. A leader board might be used in combination with a point system to provide the participants some friendly competition.

## PROGRESS

The levelling-up method of gamification transforms gaming elements into a product that is equally useful and motivating. Levels are often defined by a point system (gathering points), missions, milestones, or storylines.

In real life, there are many examples of how to gather points (Rewards) in order to achieve and reach specific levels. Usually, progressing through levels means increasing the difficulty of subsequent tasks and activities that need to be completed. One example is loyalty cards in Coffee Shops, where customers gather points for each order and these points can be converted to a free coffee.

Another example is loyalty memberships in various Airlines, which convert the gathered travel miles into loyal points and the members can achieve different levels of loyalty, e.g., Silver & Gold, with different benefits for the members based on the loyalty level.

## FEEDBACK

When we say feedback, we do not mean the feedback we get from the participants, but the feedback we give to the participants. Gamification should have distinct objectives and give users valuable feedback, which must be immediate, precise, and usable for the participants to recognize their progress and reach the desired results.



Figure: Gamification taxonomy



# GAMES & GAMIFICATION

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## FIELDS OF APPLICATION AND BENEFITS

### WORKPLACE

**Workplace Gamification** is the practice of designing environments and mechanisms that boost and encourage employees in regard to their jobs.

**Gamification in workplace can be used for:**

- **training:** train new employees, retrain current employees, increase compliance, or teach employees about new products and services.
- **team building:** improve teamwork, increase trust among employees or boost communication skills.
- **increasing efficiency:** improve employee engagements or create competitions for sales.

### LEARNING & EDUCATION

**Gamification in education and learning** refers to the incorporation of gaming aspects into a learning environment to increase engagement. In other words, it "makes the difficult aspects more enjoyable," which encourages learners and increases their interest in the subject matter. The game elements that can be used are point system, reward system, badges, teamwork, score table, etc. With all of these, students not only may be more interested in learning, but they can also boost their self-learning skills.



## MARKETING

**Gamification in marketing** is a technique used to attract and retain customers. In marketing gamification, consumers participate in an entertaining and distinctive experience created for a brand, platform, or product. These types of techniques can be loyalty programs, games for rewards, interactive quizzes, virtual currency, countdowns, etc. Moreover, companies that use gamification marketing usually collect customer data in a way that complies [General Data Protection Regulation \(GDPR\)](#), which helps them keep their customers informed about their services, products, offers and competitions.



## HEALTHCARE

**Gamification in healthcare** is used to make people interested in taking care of themselves or to establish specific healthy behaviours. Numerous wellness and medical applications for self-care, adherence to medications, preventing illnesses, and remote medical care have been developed and are already in popular usage. The main benefits of Gamification in healthcare are that it can help increase patient engagement, reduce healthcare costs by providing proactive information, and patients can be served faster by enabling healthcare providers to better coordinate patients.



# BANKING

Although banking is a very serious matter for all the people, banks are still profitable businesses and want to attract more customers because they have a lot to gain from them. The concept of

**Gamification in Banking** is not creating a banking application into a game but transforming traditional banking procedures with game elements. The most common gamification features that many banking institutes use are:

- **Cashback Programs:** They offer their clients the option of earning money from the money they spend by either providing them reward points or paying them back an amount of what they spend.
- **Monthly draws:** Every month a winner is chosen who will win either money in their account or extra points in a loyalty program. Customer participation is based on the money they spend within that month using a specific debit or credit card. More purchases mean more points and thus more chances to be the lucky winner.

Gamification in banking can bring new clients, enhance customer engagement, increase customers' awareness of new services and products (e.g., loans) and customers can track their financial performance over time (week, month, year).



# GAMES & GAMIFICATION

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## KEY CHALLENGES

### Integration

Although it sounds simple to implement gamification elements in any kind of industry or business, in fact it is very hard to integrate gamification ideas and features into pre-existing processes or services. And even more difficult is the acceptance of the new experience by the final users (existing or new customers, members, students, etc.).

### Complexity

When an idea is transformed into a gamification feature or application, it should take into consideration not only the final goal that it serves but also the psychology of the end users and their ability to keep up with the whole gamification concept. If the end users find the final gamified service/product/brand too complex and they cannot fully understand the concept, most likely they will not think of it as beneficial for them. Keeping things simple and structured is very important for the application of gamification.

### Cost

Design and development time and processes can be expensive and proper investments should be done. Other costs that might be necessary

are maintaining the gamification features, resources for music and sound effects, stock content like photos or videos and any kind of custom graphics useful to enrich these features.

### Value update

For a gamification feature or application to last in time, it is very important to keep the end users' interest and engagement. Gamification requires endless adaption to use patterns, customer behaviours and industry trends, which all demand time and money investment.

### Data Privacy

When it comes to user data privacy, incorporating a gamified element into a marketing strategy is a difficult endeavour. Any personal information breach would jeopardise the trust that end users have put in a gamification initiative.







# GAMIFICATION IN EDUCATION

## INFORMATION AND COMMUNICATION TECHNOLOGIES IN EDUCATION

The term *“Information and Communication Technologies (ICTs)”* refers to the methods, tools, applications and products of science and technology, which relate to gathering, electronic coding, processing, classification, retrieval, distribution, disclosure and study of any information in any form, whether textual, number, graph, audio, image, video.

Since the early 1990s, the European Union has recognised the need to introduce and integrate ICT in education and aims to qualitatively change the structures of education, facilitate access to education and training and broaden the horizons of education systems. The evolution of technological development has resulted in the introduction and integration of ICT in the educational system, transforming educational systems through a series of changes in curricula, teaching methods and the role of the teacher in the classroom.

Gamification in learning and education needs various technologies to be implemented. However, we should not forget that it can be implemented not only by information technologies, but also by using objects from our real life, such as paper, badges, stickers, cards, etc.







# GAMIFICATION IN EDUCATION

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## IMPACT OF GAMIFICATION ON STUDENTS' LEARNING BEHAVIOUR

Gamification's primary goals are to improve particular skills, introduce objectives that give learning a purpose, engage students, maximise learning, contribute to behaviour change, and socialise (Knutas et al. 2014; Krause et al. 2015; Dichev and Dicheva 2017; Borges et al. 2013).

Teachers, professors, and educators now understand the positive effect that gamification can have on students.

### **#1 Learning can be visible.**

Whether it's a progress bar at the top of the screen or levels to complete, these features help students orient themselves in a game, whilst it's hard for them to do so on learning journeys that don't clearly show what's ahead. With gamification, students feel that they are in control of their learning experience. Such features can be:

- points earned,
- progress bars,
- map of the learning sections (contents),
- personalised learning paths,
- etc.

### **#2 Higher levels of engagement.**

Gamification can engage students more effectively than traditional work in a classroom. Gamified learning gives students a challenge-based environment with progress tracking and scores or even leaderboards. While they boost their learning, they receive recognition for their achievements, and they are progressing towards more challenging lessons and activities or tasks.

### **#3 Real-time feedback and encouragement.**

Interactive learning using gamification allows teachers to provide to their students with instant feedback. For example, when students take a test, at the end they can review their answers and compare them with the correct answers, hence they do not have to wait to find out their capabilities and how they can improve. This further enables students to be relaxed about failure, as they can simply try again.



#### **#4 Connection with the real world.**

Gamification in education is an effective method for connecting lessons to real-life problems and practices.

#### **#5 Increased motivation.**

The activities and challenges of gamified learning create a safe environment for students where they can safely learn how to apply the knowledge and skills they acquire. Due to their prior "hands-on" experience, students will be better able to effectively apply their skills and knowledge when they are required to utilise them in the real world.

#### **#6 Cognitive development.**

Faster learning and better use of what you have learnt constitute the two aspects of improved cognitive ability. A well-structured game-based learning environment can lead to a learning chain. Playing improves cognitive ability, which improves educational results, which fosters even greater knowledge, which enhances educational results.

#### **#7 Inclusivity**

Gamification may assist in improving accessibility and inclusivity in learning. Gamification, for instance, may be a more accessible and interesting style for students with learning difficulties or other obstacles to traditional learning techniques.







## Structural Gamification

In structural gamification, game components are included into the material's structure, but the content itself is left intact. The main goal of structural gamification is to motivate students to complete their learning path in order to reach the results, which are gamified, i.e., the results are gamified not the content.

This means that structural gamification is using game elements like:

**A point system:** Students earn points for doing specific tasks, activities or studying certain theory lessons.

**Badges:** Students earn badges as achievement of specific milestones.

**Levels:** As students move through their lessons and activities and gather points, they progress through levels (experience levels).

**Leaderboards:** They can be used with the levels to allow students to improve their performance and rank on the leaderboard.



## Content Gamification

Content Gamification is the application of game elements and features on the learning content, making it look more like a game. This kind of gamification allows students to dive into content without being given objectives for learning from the beginning. It gives freedom to students to explore the learning content and then participate in activities which are based in the content and earn rewards, participate in competitions, etc.

In Content Gamification, educators can use challenges, storytelling, animations and feedback loops to engage students.







Points & Levels



Badges and rewards



Leaderboard



Progress bar



Storylines



Interactivity

---

## EXAMPLES AND IDEAS FOR EDUCATORS



## **#1 Use rewards for achieving learning goals.**

Educators can utilise rewards for students to promote learning and encourage good behaviour. Students' interest and involvement levels will rise, and they'll be inspired to work more and achieve more. They'll also feel prouder of themselves and have higher self-esteem.

All they have educators to do is connect activities, tasks and quizzes with a point system and learning objectives goals with levels. Each level corresponds to certain gathered points and the reward for reaching each level can be from a digital badge to real-life rewards.

## **#2 Always provide feedback.**

Giving learners quick feedback when they complete a task or quiz is an excellent way to keep them engaged and motivated since it enables them to see their progress as they advance through the game's various stages.

## **#3 Use competitions**

Healthy competition among the students is always a good way to keep them motivated and raise their interest. Especially if the winner has something to gain! A leaderboard is a helpful tool for a competition because it allows students to check their performance and their peers' performances.

## **#4 Create badge-based learning games.**

Educators can give badges to students depending on their level of competence and their progress. These badges can be available to students for example if they complete the whole training course into a set period, or if they reach a specific experience level or even if they do not make any mistake in their tasks.

## **#5 Use progress bars**

Progress bars are an effective approach to motivating students towards effort. Progress bars provide an accurate indication of how far they have progressed and how far they still have to go, showing the work they have completed and the work they still need to do.

## **#6 Use storylines to deliver a theory lesson.**

A compelling storyline captivates students' interest, and it can make them feel like they are in a learning journey instead of studying a boring piece of text. Characters, metaphors and visual aids always help to build a story and make it easier for students to understand and memorise the theory.



**Kahoot!**  **ClassDojo**

 **socrative**



**BrainPOP**

# GAMIFICATION TOOLS FOR EDUCATORS



# Kahoot!

Kahoot! is a game-based learning platform used as educational technology. It has learning games, also known as "kahoots", which are user-generated multiple-choice quizzes and trivia quizzes that can be accessed via a web browser or the Kahoot! App.



There are free and paid plans depending on what educators want to use and achieve.



[kahoot.com](https://kahoot.com)



Kahoot! is compliant with the [Web Content Accessibility Guidelines \(WCAG\) version 2.1](#), to an AA conformance level.

- Text is scalable using browser's zoom in/out feature to at least 200%.
- The question field can be used as an alt-text field if using media.
- It allows educators to embed YouTube media that meets the users' needs for captions and audio descriptions.
- Sound/music is mutable.
- Its services are navigable using alt, enter, and spacebar keys.
- Common screen readers on teaching devices will read questions and answers aloud.
- Common screen readers on student devices will read matching answer numbers aloud.

Source: [kahoot.com](https://kahoot.com)





Socrative is your app for fun and effective classroom engagement. It is a gaming app that offers everything from quizzes to polls. It offers three customizable game modes:

- “space race”: aims at accuracy and speed.
- typical question and answer mode.
- “Exit Ticket”: aims at assessing how well lessons are creating a learning experience



Socrative pricing starts at \$89.99 per user, per year. There is also a free version, but with very limited capabilities.



[www.socrative.com](http://www.socrative.com)



Socrative has the following accessibility features:

- It provides text alternatives for non-text content that serves the same purpose.
- It provides an alternative to pre-recorded video-only and audio-only content.
- It provides captions for pre-recorded videos with audio.
- Instructions don't rely solely on sensory characteristics.
- It does not play audio automatically.
- Contrast ratio between text and background is at least 4.5:1.
- Text can be resized to 200% without loss of content or function.
- It does not use images of text.
- The contrast between user interface components, graphics and adjacent colours is at least 3:1.
- When hover or focus triggers content to appear, it is dismissible, hoverable and persistent.
- Users can navigate to and from all content using a keyboard.
- It provides user controls to pause, stop and hide moving and auto-updating content.
- Keyboard focus is visible when used.





# ClassDojo

ClassDojo is a global community of more than 50 million teachers and families who come together to share kids' most important learning moments, in school and at home. At its most basic, it is used for sharing class photos and videos among parents, teachers, and students and offers the ability to add messages too.



ClassDojo has two plans: Basic and Plus. Basic is free with limited capabilities and Plus is \$7.99 per month or \$59.99 per year.



[www.classdojo.com](http://www.classdojo.com)



ClassDojo offers solid usability and enables a bigger audience with a range of skills to access its information. The platform goes beyond the voluntary standards by making an [assistive CX technology application](#) available to customers who have trouble typing, gesturing, moving a mouse, or reading.





# Google Forms

Google Forms is a free online application that allows users to create forms, surveys, and quizzes. Users are able to modify the forms collectively and share them with others.



Free



[www.google.com](http://www.google.com)



Google Forms is supported by Google apps accessibility features, which includes screen reader, TalkBack, full page zoom, high contrast settings, and chrome accessibility extensions to increase accessibility.





# Google Classroom

Google Classroom is a learning management system created to assist educators and learners in organising, collaborating, and managing assignments. It is accessible from all computers, mobile phones, and tablets.

Educators can work on the same lesson plan at the same time with a colleague, store the lesson in a shared Google Drive (e.g. school's Google Drive account) and share the lesson with the students.



Free



[edu.google.com](https://edu.google.com)



Google Classroom is supported by Google apps accessibility features. It allows for the use of screen readers for low vision users. Google classroom Mobile app works with VoiceOver on iOS and TalkBack on Android.





Duolingo is a fun application for learning 40+ languages quickly. It offers gamified learning to foster effective communication in other languages.



Free & Paid (starts at \$9.99 per month)



[www.duolingo.com](http://www.duolingo.com)



Duolingo has the following accessibility features:

- Duolingo is available on both desktop and mobile devices.
- It offers audio and visual accessibility options (Turn off audio, Alternative colour scheme)





# Quizlet

Quizlet is a free website that allows users to create and view flashcard sets for any subject. The app includes a large library of study materials and learning activities that cover a wide range of subjects and topics. It makes big lessons easier to digest with flashcards and practice tests.



Free option with limited features and a paid option called Quizlet Plus for about €31.99 per year.



[quizlet.com](https://quizlet.com)



Quizlet has the following accessibility features:

- It supports dynamic text.
- The content will increase without going off the page when users zoom in on the web browser.
- It is compatible with screen readers.
- It has built-in audio capabilities in over a dozen languages that can read cards.



# BrainPOP

BrainPOP is a gamification program that teaches children through interactive games, movies, and tests. The application is suitable for children of all ages and covers a wide range of subjects, including maths, science, social studies, and English.



It offers the Family plan which starts at \$119 per year and the Homeschool plan which starts at \$295 per year.



[www.brainpop.com](http://www.brainpop.com)



BrainPOP complies with the [Web Content Accessibility Guidelines \(WCAG\)](#). Some of the features included are:

- All navigation is clear and predictable.
- Each page includes an option to skip to the main content, providing users with an easy way to bypass the main navigation and go directly to the content.
- There is keyboard navigation on all pages and features so that content can be accessed without a mouse.
- All descriptive images are accompanied by alternative text for screen readers.
- All text is written at an appropriate reading level.
- All site pages include an HTML language tag.
- All BrainPOP movies and comics include transcripts and captions that provide visual and audio alternatives to video and sound.
- All site content is easily navigable for someone with low vision or colour blindness through appropriate colour contrast, functional browser zoom and does not use colour to convey meaning.
- BrainPOP Jr. includes the option to toggle on and off audio that speaks the button text.



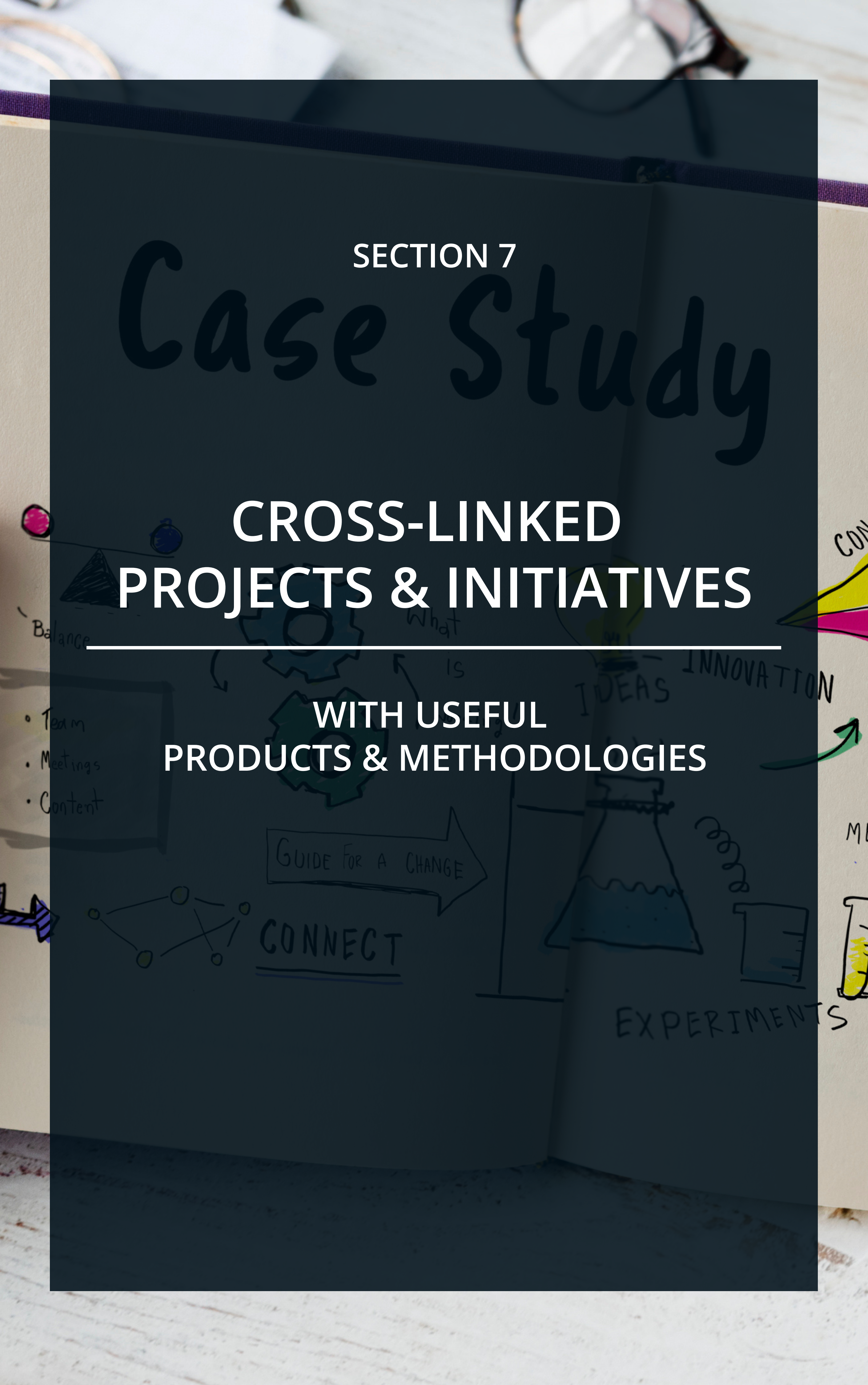
## SECTION 7

# Case Study

## CROSS-LINKED PROJECTS & INITIATIVES

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WITH USEFUL  
PRODUCTS & METHODOLOGIES





# FOR STRATEGIES TO MAINTAIN STUDENT CONCENTRATION IN ONLINE CLASSES



Online learning platform containing material focused on tolerance and diversity methods, and a cooperative environment between institutions, facilitating the creation of synergies and transnational cooperation.



An online platform on digital education for elderly people, structured in different learning units according to specific topics of interest. Each learning unit provides a general description and simple advice/tips on how to prevent online misinformation and the correct use of cyberspace.



Share up-to-date knowledge and best practice from diversity, equity and inclusion topics, as well as fresh inspirations, based on research and daily experience of large companies.



Micro-learning units developed to ensure linguistic accessibility by all users, accessibility of content that is presented in progressive form and use of both verbal and audiovisual material.



Promotes equality, non-discrimination and diversity through the innovation of providing information on employment and employment regulations in accessible digital formats for deaf job seekers.



# FOR STRATEGIES TO INCREASE THE EFFECTIVENESS OF ONLINE LEARNING MATERIALS



Task-Based Language Learning Toolkit for Tourism: Innovative foreign language teaching methods in VET as support to tourism sector



An online platform on digital education for elderly people, structured in different learning units according to specific topics of interest. Each learning unit provides a general description and simple advice/tips on how to prevent online misinformation and the correct use of cyberspace.



An online platform on digital education for elderly people, structured in different learning units according to specific topics of interest. Each learning unit provides a general description and simple advice/tips on how to prevent online misinformation and the correct use of cyberspace.



Supports the professional development of vocational competencies of teachers and trainers of entrepreneurship and enhances ICT teaching through innovative pedagogy and approach to teaching with the use of gamification.



The presentations are short (microlearning), for the synchronous participants (during the conference) facilitated by moderator and with the possibility to ask questions on the chat.





# CONCLUSION

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This e-book, 'How to increase the quality of e-learning, keep concentration high during long online sessions and gamification resources', stands as a pivotal resource for all stakeholders engaged in the realm of online vocational education and training. Throughout this comprehensive guide, we have delved deeply into the paramount importance of cultivating a dynamic and immersive learning atmosphere, where the quality of e-learning takes center stage. We have also rigorously addressed the critical challenge of sustaining concentration levels during prolonged online sessions, offering invaluable insights into strategies for maintaining optimal focus.

Furthermore, we have shed light on the transformative potential of gamification when strategically employed in the realm of education. By infusing elements of gamification into the learning process, we have elucidated how educators can not only enrich the learning experience but also render it more enjoyable and efficacious.

It is of utmost significance to bear in mind that online education within the VET context is an invaluable opportunity that demands unwavering commitment. Maximizing the benefits of this mode of learning necessitates a steadfast dedication to refining and evolving instructional approaches. With the implementation of carefully crafted strategies and a keen eye for detail, we can usher in a new era of e-learning marked by heightened quality, sustained student engagement, and a profound sense of fulfilment.

In the grand tapestry of education and training, the fusion of innovative techniques with steadfast resolve promises to be our compass as we navigate the uncharted waters of online vocational education and training. This collective effort, characterized by resilience and ingenuity, is poised to shape the future landscape of education, fostering an environment where learners thrive and knowledge flourishes.

The key to successful online vocational education and training lies in creating a conducive learning environment, which necessitates the collaboration of all stakeholders. This involves not only introducing innovative techniques, but also fostering a sense of community and collaboration among all participants.



By making use of digital tools, educators can create interactive and engaging learning experiences that resonate with students. Video conferencing and other communication platforms can also be utilized to facilitate real-time collaboration and discussion, enabling students to learn from each other and establish a sense of camaraderie.

However, it's important to acknowledge that technology alone cannot solve all of the challenges posed by online education. As a result, it is the responsibility of all stakeholders to remain committed to continual improvement and to remain receptive to feedback and criticism. By working together, we can create a learning environment that is both effective and enjoyable, preparing students for success in their desired fields.



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# VET Empowerment through innovative and inclusive Learning Approaches



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