

i-DESIGN

A guide for the design phase of the interactive phase of an online course





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Chapter 1. Objectives, Learning Outcomes and Learners Profile (ITEE)

Introduction

In the globalisation era people have become accustomed to living in a new digital environment. Nowadays, as a result of the COVID-19 pandemic and social distancing restrictions, online courses/training have become extremely popular. While more and more companies and other organisations have added online courses to their offer, a vast group of VET institutions and trainers still avoid using such teaching techniques, mostly due to the belief that, e.g. online learning may not be as effective as classroom learning, the infrastructure required to deliver online courses is costly, the digitalisation of the teaching content is time-consuming, or that the organisation lack skills necessary for such digitalisation.

The 'Toolkit for Educators and VET providers for the design and development of online interactive gamified content' (i-CONTENT) project is dedicated to trainers and VET providers (mainly small and medium enterprises) delivering non-formal initial and continuous VET courses who wish to transform the typical classroom-led course delivery into an online interactive and gamified learning experience (asynchronous and synchronous learning) allowing them to meet current market needs and enabling them to target the global market.

The main aim of the i-CONTENT guide for the design phase of the interactive phase of the online course is to define approaches and necessary content to support trainers, educators, mentors, coaches, and VET providers in the implementation of the i-CONTENT training course and training materials, and to help them become more familiar with the interactive aspect of the online course design incorporating gamification elements.

This guide describes the process of the development of the competence map linked directly to the learners' profile, based on which target groups are able to develop different teaching and educational materials.

The i-CONTENT guide developed by all project partners is available in the partners' national languages, i.e. English, Polish, Italian, and Greek.





Didactic principles

Even though the pedagogical tool offer available nowadays is very attractive, there still seems to be a big gap between the teaching methods considered to be most effective and those that are in fact used for the purpose of adult education (e.g. lectures, computer simulations and business games, project work and group work, company visits or work placements).

To fully exploit the potential of interactivity and gamification in education, educators should try to incorporate the following didactic principles in the teaching process:

• The training should be learner-centred.

Teaching incorporating interactive and gamification elements requires a pedagogical approach centred on the target group. Trainers should use a bottom-up strategy that takes life experiences of the target group into account. Adult education should allow the use of models that encourage target groups to continue learning throughout their experience. This approach should be focused on the interests and competencies of target groups.

• The didactic approach should be based on autonomous, active or experiential learning

Interactivity and gamification should be based on experiential learning. Competencies and skills can be acquired or built only through hands-on, real life learning experiences.

In opposition to the traditional approach, the target group should have an active role and grow autonomous gradually. In this perspective it's essential to prepare them to be able to think for themselves, considering the possibility to learn through 'errors' (the perspective of the 'good error'), encouraging the use of feelings, attitudes, and values, also when dealing with conflict situations.

In this context, the possibility of 'learning by doing' becomes very important. The trainers and VET providers (both as regards face-to-face or remote courses) should encourage the target group to learn autonomously, also through self-reflection and with the use of self-evaluation tools.





• The target group motivation is a key factor for the success of the learning process

The motivation of target groups is considered one of the main problems the VET education faces. Trainers should use different approaches to motivate learners and they should facilitate experiential learning and use ICT solutions as much as possible. Furthermore, when training people at work it is important to ensure that teaching content is relevant to career development and personal growth aspirations of the staff. Training that draws on real-life scenarios and case studies to which learners can relate is naturally far more interesting and motivating at the same time.

• Digital Technologies and ICT tools should be considered as fundamental resources for VET learning.

The added value of technology for VET education and cultural awareness raising resides in access to:

- (a) resources,
- (b) information retrieval tools,
- (c) sharing knowledge,
- (d) communication tools, and,
- (e) mobile fruition, and
- (f) flexibility in the training path.

Technology also introduces a new form of knowledge and pedagogy based on the idea that knowledge is distributed across a network of connections and that learning consists of the ability to construct and traverse those networks. There are a lot of free online tools to be used to develop different competencies and skills.

Together with the target group, the development of the trainers' competencies needs to be an integral part of the model. Trainers do not change their teaching methods and techniques quickly and, therefore, this handbook gives suggestions on how to use the i-CONTENT project results in the most efficient way.





A guide for the design phase of the interactive phase of the online course and the learners' profile

The 'Toolkit for Educators and VET providers for the design and development of online interactive gamified content' is divided into units and related learning outcomes.

Learners' profile: freelance trainers; trainers employed at VET or higher education institutions; public sector entities, authorities or educational organisations. Priority is given to participants from disadvantaged groups (people with disabilities, people living in rural areas, etc.). On the other hand, participants from small and medium enterprises take priority over large enterprises.

Training modules were built in accordance with the ECVET (ECVET – European credit system for vocational education and training) principles as a set of learning outcomes – in terms of knowledge and competencies/attitudes – that a trainee should achieve when participating in the i-CONTENT training course. As most EU countries have synchronised their national framework with the EU directives, the partners have defined that the training material developed should allow students to reach Levels 3 and 4 of the EQF standards as described below:

	Knowledge	Skills	Responsibility and autonomy
	In the context of the EQF, knowledge is described as theoretical and/or factual.	In the context of the EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).	In the context of the EQF responsibility and autonomy is described as the ability of the learner to apply knowledge and skills autonomously and with responsibility
Level 3	Knowledge of facts, principles, processes and general concepts,	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and	Assume responsibility for completion of tasks in a field of work or study; adapt own behaviour to





	in a field of work or study	applying basic methods, tools, materials and information	circumstances in solving problems
Level 4	Factual and theoretical knowledge in broad contexts within a field of work or study	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Exercise self-management within the guidelines for a given work or study context that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of given work or study activities

The i-CONTENT guide is structured as follows:

P1. Content organisation and structure

The aim of this part is to show that the design of the structure of the educational content is particularly important, especially as regards the remote education environment that calls for the optimisation of the learners' educational experience, due to the trainer's lower contribution or physical absence. This means that the educational material and its content must be designed and structured in a way enabling the performance of these activities and aiding the learning process in the best possible way.

P2. Content Visuals and Animations

The aim of this part is to present different resources and activities which can be developed when the visuals are created. The target group should know the overall theme of your online training program. That includes the font type, the colour scheme, and the tone of the narrative. It's





essential to set the standards from day one so that everyone's on the same page. This keeps the online training course design cohesive and well-organized.

P3. Choosing and Using the Right Ecosystem of Tools and Content

This objective of this section is to decide how to combine different available tools to produce a learner-centred approach, which, as data suggest, is the most effective approach for an online course. In order to accomplish this, we will provide a current snapshot of the different tools for online training, and some rules of thumb and points to consider in order to combine them into a successful online training. To streamline the process and the workflow of the course itself you will need to consider at least these elements.

P4. Making Content Engaging and Interactive

The main objectives of this part are the following: to build activities that encourage them to cocreate and peer review; to create exercises that help students reflect on their own perspectives and learn from one another; to combine sharing and commenting with gamification — this makes any course more interactive; to interact with students as they work (comment on a document as it is drafted online, drop into a chat room or simply acknowledge students in live sessions); to hold online office hours and encourage students to come and bring their questions; to create microlectures combined with silent activities and group work; to record your lessons. Most online courses use video format because it is engaging and enables your students to hear and see you and you can illustrate your points visually.

Below there is a detailed table specifying the knowledge and competencies of the training material connected to each module and unit of learning outcome, together with the estimated hours needed to reach the foreseen goals within each module.





		LEARNING OUTCOMES		
ΤΟΡΙϹ	The module square the following	KNOWLEDGE	SKILLS	
	learning objectives:	After the completion of this module the learner will be able to:	After the completion of this module the learner will be able to:	
	the structure of the content	define the structure of the content	apply the structure of the content	
	the use of the course map	describe the use and benefits of the course map	develop and implement the course map	
	the development of the module learning outcomes	identify the specific learning outcomes for each module	outline and align learning outcomes for each module	
1. Structuring the Content	the assessments of the skills gained	determine the assessments of the skills gained	select and apply the most suitable assessments of the skills gained	
	the activities to facilitate engagement, practice, and transfer of learning	list the activities to facilitate engagement, practice, and transfer of learning	adjust and use the activities to facilitate engagement, practice, and transfer of learning	
	the development of the instruction (including learning materials, resources, and key principles)	determine the instruction (including learning materials, resources, and key principles)	outline the instruction (including learning materials, resources, and key principles)	
2. Content Visuals and	the steps to develop the visuals of the course	list the steps to develop the visuals of the course	develop the visuals of the course	
Animations	the choice for the course logo	characterise the importance of the right choice for the course logo	design/establish the right course logo	





	LEARNING OBJECTIVES	LEARNING OUTCOMES		
ΤΟΡΙϹ	The module covers the following learning objectives:	KNOWLEDGE After the completion of this module the learner will be able to:	SKILLS After the completion of this module the learner will be able to:	
	the choice for the course colour scheme	characterise the importance of the right choice for the course colour scheme	apply the right course colour scheme	
	the choice for the course character/avatar	explain the impact of having the course character/avatar	select the most suitable course character/avatar	
	the creation of the course navigation elements	identify the types of the course navigation elements	select the most suitable course navigation elements	
	the creation of layouts (including e.g. transition, animation effects, fonts)	define the design principles of creating layouts	apply the design principles of creating layouts	
3 Choosing and Using	the concept of the ecosystem of tools and content	define the concept of the ecosystem of tools and content	apply the concept of the ecosystem of tools and content	
the Right Ecosystem of Tools and Content	the elements of the ecosystem of tools and content	describe the elements of the ecosystem of tools and content	employ the proper elements of the ecosystem of tools and content	
	the choice for the ecosystem of tools and content	characterise the importance of the right choice for the ecosystem of tools and content	choose and apply the right tools and content	





	LEARNING OBJECTIVES	LEARNING OUTCOMES	
ΤΟΡΙϹ	The module covers the following learning objectives:	KNOWLEDGE	SKILLS
		After the completion of this module the learner will be able to:	After the completion of this module the learner will be able to:
	the European Framework for the Digital Competence of Educators	describe the European Framework for the Digital Competence of Educators	interpret the European Framework for the Digital Competence of Educators
4. Making Content Engaging and Interactive	the difference between the gamification of learning and game- based learning	describe the difference between the gamification of learning and game-based learning	distinguish between the gamification of learning and game-based learning
	the influence of the game on learning	explain how the game influences learning	examine and use proper games to improve learning





When writing the units of learning outcomes, the knowledge and the competencies the i-CONTENT partners have followed common terms of reference. The aforementioned terms of reference are shared below to support adult educators and trainers in further developing the i-CONTENT material.

Each section should not solely be a statement of facts or content but it should be preceded by a verb and possibly adverb/adjective.

- **Knowledge** means the body of facts, principles, theories and practices that is related to a field of work or study. It is described as theoretical and/or factual knowledge.
- **Competency** means the proven ability to use knowledge, skills and personal, social and methodological abilities in work or study situations and in professional and personal development. It is described in terms of responsibility and autonomy.

The following are sample verbs which can be used when writing the statements:

1. Knowledge	
1.1 Knowledge and understanding	count, define, describe, draw, find, identify, label, list, match, name, quote, recall, recite, sequence, tell, write
3. Competences	
3.1 Autonomy and responsibility	collaborate, comply, deal with, ensure, be responsible for, carry out tasks, guide, supervise, monitor, authorise, manage, create, produce, represent, advise, negotiate, sell





Chapter 2. Structuring the content (modules, learning units) / A Course Map

Chapter Aim:

The design of the structure of the educational content is particularly important, especially in the distance education environment, where the educational experience of the learners is important to be optimized, due to the reduced contribution or the lack of presence of the trainer. In the case of online training, the presence of the trainer is limited, if not completely absent, with the result that all training activities must be carried out through the interaction of the learner with the training material.

This means that the educational material and its content must be designed and structured in such a way as to perform these activities and to support and aid learning in the best possible way.

When we start to structure the content, we need to be ready to answer the following questions:







What are the major topics in our course?

Creating the course map of our content can help us visually recognize the vast amount of information that needs to be organized for our online course. Analyse our content by drafting the course map of all our content so we can visually see how much information we are working with. How do we organize material in an effective way?

A great online course considers how the learning materials, content, and concepts can build upon each other to create an engaging learner learning experience. Organizing content into small topics or units of instruction typically begins by creating an online learning module in the course. What content is essential to student learning?

Deciding which content to leave out of our course can be challenging. We must think of this step as an essential "decluttering" of our online course content. Rather than making delivering our content the goal, utilizing course learning outcomes as a roadmap to navigate the elements of our course can help streamline our content and maximize the learner learning experience.





We have to decide which content to leave out by revisiting or drafting course learning outcomes for our course and removing any content that is not relevant or in alignment with the outcomes.

In order to achieve the answers to the above questions and to demonstrate the alignment between our course's learning outcomes, materials, and assessments, we need to build a course map.

In a nutshell

A course map is a visual overview of all components of our online course.

The course map organizes the structure of our course around its learning modules. Each module is broken down into its components: module outcomes, assessments, activities, instruction, and then linked or mapped to the corresponding course learning outcome to show the alignment, the direct link between learning outcomes and course components: assessments, activities, and learning materials.







Mapping out our course will help us determine the essential assessments and activities that build comprehension and application of the learning material, leading to achievement of the expected outcomes. A well-aligned course means that all components of the course contribute to the learner's experience and lead them directly towards achieving the expected outcome.





Why Map our course?

Create manageable units of learning. Determine effective assessments that align with learning outcomes. Ensure learning builds and scaffolds appropriately. Provide clear expectations for our learners. Design a roadmap for our course. Evaluate the bridge between courses.

How To:

In order to build the Map of our course, we have to follow the steps bellow.







Modules

The first step is to scaffold our Course Learning Outcomes and create a structure by organizing them into manageable units of learning. As we begin to map our course, we have to think about our learners and how to guide them towards the end goal of the course. We have to decide how our course learning outcomes build upon one another or scaffold.





Example

foundational learning outcomes that are lower on the cognitive scale such as define or explain, are typically addressed early on in the course, while higher-level cognitive skills such as distinguish or design may not be accomplished until later.

Organizing the course Modules

Next, we have to structure our course according to the order of our course learning outcomes from lower complexity to higher complexity.

We have to determine how the outcomes can be broken into units of learning.





Example

Course Learning Outcomes I and II might be achieved together in one learning module earlier in the course. For each module, write the corresponding course learning outcome as a Roman numeral in the second column. In the next step, you will be creating learning outcomes for each module that align to the course learning outcomes we've identified.

Module Learning Outcomes

The second step is to identify the specific learning outcomes for each module, the Module Learning Outcomes, and note how they target Course Learning Outcomes. This process is very similar when we wrote our Course Learning Outcomes. When writing module learning outcomes, the level of specificity becomes narrower. Module Learning Outcomes are time-bound and should be achievable within a few hours or days, rather than weeks or months.

Module Learning Outcomes help scaffold our course to incrementally reach our stated course learning outcomes.

When we writing our module learning outcomes, we have to consider:





Time to achievement	Assessment	Activities
Can learners attain this outcome by the end of this learning module or unit?	How will the learning outcome be assessed or observed?	What kinds of activities will allow learners to practice and gain feedback before they are assessed?

If the learning outcome is not directly supported by the learning material or will not be assessed, we must reconsider its necessity and whether it meets the goals of the course.

Assessments

The third step, after defining our module learning outcomes, is to determine how we will assess the knowledge learners have gained, the skills they have mastered, and their ability to determine and construct meaning. We need to determine acceptable evidence of the achieved learning





outcome at different levels of mastery, identifying the formative assessments and the summative assessments.

- Formative Assessments. Formative assessments are ongoing throughout a course and can be incremental or sequential, building upon one another. Formative assessments help instructors gauge how learners are progressing, how learners perform at specific milestones, and how learners engage with the material. Formative assessments also provide learners the opportunity to put their knowledge into practice, self-assess, ask clarifying questions, and reflect on their learning. These types of formative assessments can often drive instructor-learner contact, require active feedback, and trigger engagement throughout the online or hybrid course.
- Summative Assessments. Summative assessments usually occur at the end of a course or at the end of a series of modules and typically result in a score or a grade. Summative assessments evaluate the learner's achievement of the desired learning outcome at the completion of the course or learning module. Summative assessments are higher stakes, and often consists of performance evaluations, authentic writing assignments or projects, or exams.

Not all assessments have to be graded or need to have a point-value; however, all assessments in a course should be meaningful, contributing to the desired learning outcome.





Formative Assessments

Quizzes and Surveys Prompted Discussions Journal Reflections Summaries Write-ups Peer and Self Assessments Group Collaborations Case Studies Photos of artwork Videos of field/site visits

Summative Assessments

Essays Research papers Projects Reports Recordings Recitations Presentations Demonstrations Final Exams Portfolios

Activities

The fourth step, after determining the formative and summative assessments for our course, towards the map creation, is to brainstorm the types of activities that will facilitate meaningful engagement, practice, and transfer of learning. It is time to think about the level of interaction this course will encompass and the kinds of activities that will help learners gain practice and build their skills.

An online course that is high-touch and engaging involves meaningful learning activities. Learning activities include interactions and engagements that allow learners to practice, self-assess, obtain feedback, and establish retention and transfer of their learning.

These interactions can be categorized into three types:

1. learner-content interaction,





2. learner-learner interaction, and

3. learner-instructor interaction.

In order to identify the appropriate learning activities for our course, we must consider the kinds of interaction that will contribute to a deeper understanding of the instructional material, give learners the opportunity to practice and document specific procedures and methods, engage learners in collaborating with their peers, and improve their skills through helpful feedback from the instructional team.

Learner-Content Interaction	Learner-Learner Interaction	Learner-Instructor Interaction
self-paced learning material self-check quizzes drag-n-drop, matching digital textbooks videos with self- check quizzes labwork, field work practice items	peer review discussion forum group collaboration community boards wiki file share breakout rooms	office hours synchronous meetings discussion board grading rubrics assignment feedback announcements

Instruction

The fifth and final step towards the map creation is to determine the learning materials, resources, and key principles that will equip learners and provide a solid foundation of understanding. It is





the time to consider the kind of instructional materials that will best equip our learners to participate in activities, succeed in their assessments, and achieve the intended outcomes. We have to think about the learning experience we want our learners to gain in each module and in our course as a whole. We have to determine the most appropriate materials and method(s) for instructional delivery, which include but are not limited to:

- video,
- textbook readings,
- recorded demos,
- PowerPoint slides,
- articles, and graphics.

We must keep in mind that delivery of content should always be accessible, providing alternative modes of delivery: transcripts, descriptive text, speech-reader capability, searchable text, etc.

Next, we present an example of a Course Map Template

Course Map

Course Name:	Course Name:	
Instructor Name:	Date: [Last saved]	
Designer Name:	Version: [Draft 1, Draft 2, Final]	
Program Outcomes Addressed: [Optional]		





Course	Learning	Outcomes:
I. II. III.		

Course

Materials

- Textbooks:
- Resources:





Module # and Title	Course Learning Outcomes (CLOs)	Module Learning Outcomes (MLOs)	Assessments and Rubrics	Activities: Learner Interaction & Engagement	Instructional Materials
The title should be short, yet descriptive and specific to content being explored.	List all course learning outcomes addressed in the module by their Roman numerals.	State the module's intended <i>measurable</i> learning outcomes. MLOs must describe student performance in specific, observable terms. Use suggested action verbs from Bloom's Taxonomy. In parentheses, include the course learning outcomes (CLOs) that align to each MLO.	Specify all assessments that will be used to measure the stated module learning outcomes . List the name of rubric (if applicable) that provides descriptive and specific evaluation criteria for the assessment. Also, list the MLO(s) that align with each assessment. If assessment does not count towards the student's grade they should be marked "Not graded" in place of the rubric name.	List all learning activities that promote achievement of the stated module learning outcomes and align with assessments Learning Activities may also be listed in the assessment column if they are graded. In parentheses, include the MLOs that are being met wit each activity.	List all instructional materials and technology/media used during the module that promote achievement of the stated module learning outcome. This may include readings, web resources, videos, podcasts, audio, etc. In parentheses, include the MLO(s) that align to the materials. If a learning material does not have an aligned MLO mark it as Supplemental or Optional.
Module 1:	VII	After successful completion of the module, the student			





Module # and Title	Course Learning Outcomes (CLOs)	Module Learning Outcomes Asses (MLOs)	essments and Rubrics	Activities: Learner Interaction & Engagement	Instructional Materials
Introduction	VIII	will be able to: Disc		Discussion	Read
to Modern		1.1 Recall/employ the main concepts and equations of		Intro to Modern	
1 1193103		classical mechanics (kinetic energy, momentum, and vector	MEC3 1.3 & 1.4	& 1.4	(111203 1.1 - 1.4)
		addition). (CLO VII) Hom	mework	,	Module 1
		Probl	blems involve concepts		Exploration
		1.2 Recall/employ the fundamental concepts and equations of sp	space & time; classical	Simulation	(MLO 1.1)
		Illustrate the kinetic theory of matter energy	rsics & molecular	http://phet.colorado	
		(CLO VII) (MLC	_Os 1.1, 1.2, & 1.4)	.edu/en/simulation/	
			· · ·	normal-modes	
		1.3 Summarize the failures of classical physics in terms of		(MLO 1.1)	
		(CLOS VII VIII & IX)			
		1.4 Differentiate between classical physics theories and modern physics theories.			
		(CLOs VII, VIII, & IX)			
Module 2					





Chapter 3. Content Visuals and animations

Chapter Aim:

Deciding on the content visuals early on will save the course creator a lot of time. The course may consist of resources such as PowerPoint slides, pdfs, web sites and videos, activities such as quizzes, videos, interactive videos and games. Once you have the structure of the course in place and you have decided what kind of resources and activities you will develop it is essential that the visuals are created.

Every member of your eLearning team should know the overall theme of your online training program. That includes the font type, color scheme, and the tone of your narrative and second/third person. It's essential to set the standards from day one so that everyone's on the same page. This keeps the online training course design cohesive and well-organized. Keep in mind that your collaborators will be working on their online training assignments independently, or in small groups. Standards give them guidelines to follow, which prevents fragmentation.

The objectives of the section are:

- List the steps to develop the visuals of the course
- Demonstrate the capacity to make the right choice for the course logo
- Understand what a color scheme is and its purpose and adopt a color scheme for the course
- Highlight the importance of creating a prototype
- Present Best Practices for the development of Visuals for an online course





In a nutshell

When we are referring to content visuals we are referring essentially to these elements



Design/Establish a Course Logo

A course logo will give an identity to your course.





How to:

- a. Look at the topic of the course and prepare ideas
- b. Research the internet to get logo ideas
- c. Design/select a logo that reflects the topic

Good Practices

- a. Your logo should reflect the course topic in a unique way. Sounds obvious, but you'd be surprised how many create logos similar to other logos. If your logo contains a symbol--often called a "bug"--it should relate to your industry, your topic, a defining characteristic of your topic or a competitive advantage you offer.
- b. Avoid too much detail. Simple logos are recognized faster than complex ones. Strong lines and letters show up better than thin ones, and clean, simple logos reduce and enlarge much better than complicated ones. But although your logo should be simple, it shouldn't be simplistic. Good logos feature something unexpected or unique without being overdrawn.
- c. Your logo should work well in black and white (one-color printing). If it doesn't look good in black and white, it won't look good in any color.
- d. **Make sure your logo's scalable.** It should be aesthetically pleasing in both small and large sizes, in a variety of mediums.
- e. Your logo should be artistically balanced. The best way to explain this is that your logo should seem "balanced" to the eye--no one part should overpower the rest. Color, line density and shape all affect a logo's balance.
- f. Once you commit to your logo design, be sure you have it in all three of these essential file formats: PNG, JPG and GIF.
- g. Never, ever re-draw or alter your logo! If you want to animate it for your website, fine. But don't change its essence.





- h. Remember that the logo colors will be used in your course color scheme. Therefore, it is essential that you pick a logo with the colors that you wish to have in your course visuals
- i. Ask your friends and colleagues to vote from a selection of logos
- j. Ask your friends and colleagues to guess what the course is about by looking at the course logo





Choose a Color Scheme

In color theory, a **color scheme** is the choice of colors used in various artistic and design contexts.

Many software such as PowerPoint and Word come with predefined color schemes. So, you have the option to use one or create your own. As this is the work of a graphics designer, we will not be getting into too much detail on this topic. Just keep in mind that for the creation of background elements, navigation buttons etc you should be using a set of colors that works well together.

Good Practices

- 1. Use your logo colors: The first step to choosing a website color palette is to consider your brand. If you have a specific branding color that you're happy with, then that's the obvious choice for one of your website colors.
- 2. Consider common color associations

Think about the emotions and attitudes associated with different colors:

- Red: energy, power, passion
- Orange: joy, enthusiasm, creativity
- Yellow: happiness, intellect, energy
- Green: ambition, growth, freshness, safety
- Blue: tranquility, confidence, intelligence
- Purple: luxury, ambition, creativity
- Black: power, elegance, mystery
- White: cleanliness, purity, perfection

However, it's also important to understand that the same color can have different meanings to different people.



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- 3. **Cater to your target audience:** If your target audience is mostly women, use colors they prefer. <u>Kissmetrics</u> shares the results of a study by Joe Hallock in which the top three colors chosen by women to be their favorites were blue, purple and green. Top colors for men? Blue, green, red and black. It turns out both genders like blue, while women and men are very divided on purple.
- 4. **Consider your industry and topic:** You should also think about your industry, and the colors that are most often associated with it. For example, environmental organizations will often use green, while breast cancer organizations always use pink. By choosing your industry's typical color, you can allow your organization to quickly be associated with that industry.

On the other hand, if you want to differentiate yourself from your competitors, choose a completely different color palette. While many Jewish Community Centers opt for a white background and bright colors, the <u>JCC of Dallas</u> switches things up with a dark background and muted accent colors.

5. Add an accent color: The best online color palettes follow the 60/30/10 rule. One color is used on 60% of the content slides and a secondary color is used on 30% of the content. The final 10% should be an accent color—something that contrasts with the two main colors, and is used to highlight important content on the website.

For example, you may use the yellow-orange accent color to draw attention to an important note in the content

- 6. **Make sure your text and background colors contrast:** To make your text easy to read and to avoid causing eye strain, there must be a high contrast between your text color and your background color. Choose either a dark font color on a light background, or light text on top of a dark background.
- 7. Use online tools to discover or create your color palette: The <u>Adobe color tool</u> makes it easy to create professional-level color palettes. Experiment with different "color rules" and use the pointers on the color wheel to create different combinations. You can also <u>explore color palettes</u> created by other users.





Choose a Character or an Avatar (Optional)

You may opt in for a character or an avatar to be used throughout your course. The Character can make your course more fun and more personalized. Some course authoring tools offer a build-in library with characters that you can add on your slides/canvas. For example, ispring course authoring tool provides a set of characters in various postures which can be used on the course slides and which can give the course a more in-person experience to the learner.



How to:

- 1. Decide from the beginning whether a character or an avatar with or without animation will be used.
- 2. Find out whether the authoring tool you will be using offers a build-in character library. If not, you can buy character libraries, or you may wish to download free characters from the Internet (https://www.mixamo.com/)





3. Choose the character that matches better the course topic and intended audience. For example, if the course is for youngsters you may want to choose a trendy character, if the course is for children, you may choose a cartoon or if the course is for business people you may choose a business man as a character

Best Practices:

- 1. Decide from the start if you will use a character or an avatar to incorporate it in your design.
- 2. Do not overdo it with characters, especially animated characters
- 3. Choose the character that best matches your audience and topic.
- 4. Choose a character with colors that match your color scheme.

Create Navigation Elements

How to:

- 1. After selecting an authoring tool, you need to check whether it has navigation elements of its own. For example,
 - a. the course authoring tool Ududu has templates with build-in navigation elements (i.e. a home button, a course map, a back and next button etc).
 - b. iSpring, offers various options for navigating through the slides
 - c. H5P has its own navigation buttons.
- 2. On the other hand, if you are just using PowerPoint, then you will need to create your navigation elements before exporting the content into SCORM.
- 3. To create navigation elements, you may use a design software such as illustrator or even the drawing tools in PowerPoint.





Best Practices

- 1. Clearly label your buttons
- 2. Create short drop-down menus
- 3. Use familiar icons and terminology
- 4. Bold colour hues to catch student's attention
- 5. Make an easy access to the main eLearning course map (home)

Create Layouts

How to:

- 1. Regardless of the course authoring tool you will be using, it is a good idea to create various layouts to accommodate various types of contents. This is similar to the slide layouts in PowerPoint.
- 2. You could create a layout for the title screen/slide of the course, a different layout for the modules and another for the units (sub sections of a module).
- 3. Additionally you should create layouts to accommodate a video, or a slide where you need to have a picture with content, or a layout which can fit a lot of text etc.
- 4. Having various layouts will help the content developer to choose among a variety of options.

Best Practices:

Design

The visual presentation of an online course content strongly affects how easily learners will be able to learn and apply new information.

There are 6 design principles you should bear in mind when designing content:

- 1. contrast
- 2. similarity



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- 3. proximity
- 4. alignment
- 5. symmetry
- 6. repetition
- 7. Fonts
- 8. Colors
- 9. Other important notes

1. Contrast:

A lack of contrast will not give the learner a location to focus their attention on so they know how to start an activity. There is no way to distinguish the most important thing on the page.

Here is an example of how contrasting colors can actually add context or additional meaning to a diagram.

In the image below on the left, all of the items look more or less the same with equal importance and the same type of information because they are numbered together and have the same level of intensity to the eye. In fact, if you were color blind, you might not be able to distinguish them from each other very easily. The 'Dos' and the 'Don'ts' look the same.







With the image on the right, you know that the items are different because the tips are grouped together and separated by a line and image, making it easier for your brain to group and contrast the information. Additionally, to support a color-blind person, the hues of the red and green are on the same level as in the words (dos on top with a green 'o' and don'ts on the bottom with a red 'o'). The boxes are also **not** numbered together, which further contrasts them as list items. So how can you tell where the most important part of the page is when you're building it? You could try the 'squint test'. To do this:

- 1. Step back from your screen or graphic
- 2. Look at your design
- 3. Squint your eyes so you aren't looking at the picture clearly.

What stands out to you? That contrast is what the learner will immediately be drawn to when they first see the page.

2. Similarity

If contrast enhances differences and shows the learner what is important and what to do next (think bright arrow buttons to advance the screen), then similarity serves to group elements together and shows how elements on the page are linked or related. In cognitive load theory, things that the mind can recall easily and link or group together based on memory, reduce the amount of processing and allow the learner to spend more time learning novel information.

Your mind makes these types of assumptions and groupings all the time, and usually without your awareness. According to the presenters, Malcolm Gladwell, in his book 'Blink', says that people can make an assumption within 2 seconds and group things together. This similarity of the elements on your page can be tested by doing a blink test. Here's how you do it.

- 1. Close your eyes for 10 seconds
- 2. Open your eyes and look at your screen for 2 seconds and then close them again
- 3. Recall what stood out to you

Would you like to try this test? Then take a look at the image below; can you find the 'odd men' out?



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If nothing stands out, then your elements are similar and will be grouped as a single thing in your processing memory. If this is what you want, great! If not, you will have to add something more distinguishing and amplify the contrast in order to make that most important element stand out. **3.** Proximity

Here is an interesting slide to illustrate how proximity allows your mind's eye to build associations between elements or show distinction from a group.







Here is a slide from the presentation showing a bunch of stickers on the back of a van. It illustrates the type of family that owns or travels in the van. When you look at the picture on the left, what's the first question that pops into your head? For the presenters it was, "Why don't they like the cat?"

If we were to draw a line connecting the cat though (as in the picture on the right), you would make the lack of proximity into a different story: "Oh, the cat is on a leash and doesn't like them; I see!"

Drawing elements together by putting frames around them, bringing them closer together on the screen, or aligning them so they look like they are associated helps the learner to understand that the items which are put together are 'one,' which reduces cognitive load. They are processing one idea, not several, and this is more restful.

4. Alignment

Have you ever been in a museum or at someone's house where a picture in a frame on the wall was crooked? Perhaps not extremely crooked, but just enough for you to notice. Did you remember what was in the frame? Many people would say no because the lack of symmetry caused their brain to process the straightening and not look at the actual image too much! (Think about the squint test here.) The same can be said for designing eLearning. There are two rules of graphic design you need to follow so your learners won't be distracted by the layout but will focus on the content: alignment and white space.





According to the presenters, "Alignment creates a sense of unity and harmony and consistency." It also allows your brain to build associations without your having to tell it to. Here's a slide about the Burj Khalifa, one of the tallest buildings in the world.

> If you were near the top of the world's tallest skyscraper – the Burj Khalifa in Dubai you would feel the building sway about two meters.



Both images include the same elements: an image of the building, and a text about the building. But, in the picture on the left, the two are not connected. There is no emotion or imagination linking these two on the page.

In the image on the right, the text is aligned close to the top of the image itself. Now your imagination can think about what it would be like to be in a swaying building! Alignment of the objects draws relationships to those objects and causes a reduction in cognitive load because you're making the connection for the learner on the page.

5. Symmetry

Whereas alignment is the rule of putting things so they line up, symmetry, which obeys the rule of thirds, means using the space on the page in thirds or on a grid to make elements on the screen look more natural. The best way to describe this is to demonstrate.

Look at the images below. One has the screen elements placed equidistantly; the other has the elements placed so that the text is in the larger space (taking up two-thirds of the space). The text in the image on the left appears to have been an afterthought, while the text in the picture on the right allows your eye to rest on the text after you acknowledge the flowers in the most prominent spot.







The rule of thirds says that the object or the focal point of what you want your learner to see should be on one of the axis points where the X and Y lines meet in a 9×9 grid.





This is how your eye scans according to the Rule of Thirds. 41%	20%
25%	14%

Your eye will always focus this way when trying to process an image, so make sure you put your more important element (the focal point) in the most important place. This doesn't always mean putting the core content in the top left corner if you want someone to explore the entire image. 6. Repetition

When designing eLearning, repeating key points helps the learner to remember and associate these points and the new information presented together. This principle is called 'scaffolding.' This is also an important element of graphic design within eLearning because it allows the learner to anchor key information together.



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Always using the same icons for similar information, repeating buttons that perform the same action, or creating memory pegs from maps or callout blocks of contrasting text on different pages helps the learner focus on the content because they don't have to think about the design. Repetition also means that all of your slides or pages in your online learning design have a similar font, layout pattern, imagery style, buttons, and other markers that make a unified and cohesive presentation.

7. Fonts

- Never choose more than 1 main and 1 highlight font and try not to put more than 3 fonts in a single slide or presentation.
- Use italics or bold, but not together and particularly not with underlining (it makes your text look messy and hard to read)
- Try to pick Sans Serif fonts in order to increase readability in your pages for those who have difficulty reading or who don't use your language as their first language.
- Try to use full contrast in your text on a page if the text is laid over an image (you can achieve this by using a translucent background matte under the text or shading the text box to make the text more visible).Contrast in the text on a page
- Use captions and alt tags to help learners who can't see well understand your images or media.
- 8. Colors
- Choose no more than three main colors for your boxes, highlights, fonts, and other elements on the page. You might also consider using a color wheel to help you pick the colors.
- 3 colours should be equidistant from each other on the wheel
- 3 colours could also be side by side (called a monochromatic color scheme)
- 2 colours could also be complementary, meaning at opposite sides of the color wheel





Other important notes

• Try to pick Sans Serif fonts in order to increase readability in your pages for those who have difficulty reading or who don't use your language as their first language.



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- Try to use full contrast in your text on a page if the text is laid over an image (you can achieve this by using a translucent background matte under the text or shading the text box to make the text more visible).
- Use captions and alt tags to help learners who can't see well understand your images or media.
- Don't lock your pages (meaning don't force your learners to go to every single page) if you can to allow the learner the autonomy to discover and review content as they see fit.

Transition, Animation Effects

How to:

A slide **transition** is the visual effect that occurs when you move from one slide to the next during a presentation.





Animation effects refer to the animation of objects on a canvas or a slide. You can select the order(sequence) in which the objects appear, the animation effect (from top, swivel etc) and duration of the animation effect. Animation effects can reduce the content of the slide by introducing one element (picture, text, video) at a time so that the learner is not overwhelmed with too much content on the slide. Moreover, animation effects, if used in a smart way, can present content like story telling thus avoiding big blocks of text.

Best Practices:

Transition:

Select a transition which is subtle. Although there are exciting slide transitions in various software (i.e. PowerPoint) these can be tiring to the viewer's eye. There are also some transitions which are slow and can cause delays in viewing the materials which can cause frustration to the learner. You should avoid those.

Animation Effects

- Identify your purpose
 - Use animation to simplify concepts and make the lessons eye-catching and engaging.
 - Don't waste time and money animating decorative, distracting videos.
- Don't animate the whole course
 - Let animation be a small part of the lecture only.
 - Animations are great for phenomena that are invisible to the naked eye.



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Develop a prototype

IT is a good idea to create a prototype. By prototype we mean a module where you incorporate by using examples all the best practices mentioned above. Use this prototype to educate the people working on the course so that they fully understand the 7 steps presented above and more specifically to learn how:

- Design/establish a course logo
- Establish or use a color scheme
- Decide whether they will use an Avatar or a Character and if yes, check possible software that can offer this
- Create navigation elements (buttons, menus, etc)
- Create Layouts and templates (of different sorts) to be applied to slides, documents or other elements
- Select appropriate Transitions and Animation Effects ((it may even come down to preselect certain transitions that are considered appropriate)





Chapter 4. Choose and Use the right Ecosystem of tools and content.

Chapter Aim:

This section Objective is to think in the Learning Workflow, how to combine the different tools existing in order to produce a learner centered approach, which is the most effective approach for an Online course as data suggest.

In order to accomplish this we will provide a current snapshot of the different tools for online training, and some rules of thumbs and points to consider in order to combine them into a successful online Training.

To streamline the process and workflow of the course itself you will need to consider at least these elements.

- What are your participants currently using?. In which communities do they thrive?.
- How will you communicate with them during the course?.
- Where will you host your course information?.
- What is the time structure of your courses?
- What kind of media is more relevant for your audience?.
- How are you going to assess the course?.

To consider all these elements prior to the course Design is a key factor in terms of success of the learning experience, whilst improving engagement, retention rates and efficiency and sustainability of the Training course.





The best practices examples will illustrate some of the concepts approached in this section, and all have been carefully selected to comply with the success and innovation criteria to position this Chapter guide at the most current approaches to innovative online training.





In a nutshell:

Study your needs following the workflow and choose your best tool from each category in the ecosystem.











The Online Learning Workflow

Follow your learning workflow and take notes of the different decisions options as you go along, that will give you the tools that you need to use.

What kind of course are you designing:

First you need to look at what kind of course you are designing, 2 main categories and 2 approaches will configure the set of tools from the beginning:

- Formal NonFormal:
 - A formal accredited course will need elements of Student management, Assessment and mapping against a given curriculum framework. For this set up is convenient the use of a LMS (Learning management system).
 - Non Formal non accredited course. This is the most common set up for VET, adult education, and Upskills courses. This set up normally does not require a LMS.
- Self Paced Asynchronous / Direct contact Synchronous:
 - Pure Self paced courses rely heavily on the content produced, needs to take into account the granularity of these content, and provide asynchronous channels of communication between the Trainer and the Learner.





• Direct contact: In this set up the learning is provided by the trainer in real time using different platforms and tools, courses are scheduled, is less content based and relies heavily on the engagement aspects and community development.

This four Axis Will help you to decide whether your Course navigate more or less in those areas: It is worth noticing that nowadays most of the Online learning actions are a combination of the 2 elements described above.

- The first criteria will influence mainly the overall system approach, the technical and digital infrastructure required and the human resources.
- The second element will influence the choice of the communication and community platform and the kind and volume of learning content to be delivered.

User centered Approach:

The following elements are strongly related with the First Section of this Guide: Objectives, Learning Outcomes and Learners Profile:

Setting up the objectives and Learning Outcomes will Influence:

- The Content itself in 2 main aspects:
 - o Content volume
 - o Level of Training
- The assessment methods depending on the Learning objectives area:
 - 0 Knowledge
 - o Skills





o Attitudes

Having a proper context for the Learner Profile and the target group will Influence:

- The kind of Media that you use to deliver your content
- The communication tools and community platforms that you use.

Setting up the communications:

Based on your audience and learners profiles on one side and the Kind of course on the other you should decide and set up in advance the communication channels that will support the delivery of your courses.

As an abstract classification you will use 1, 2 or the three following:

- Asynchronous communication: The communication does not happen in real time.
 - o Mails
 - o Forums
 - o Community threads
- Synchronous communication: The communication happens in real time.
 - o Chats
 - o Video calls
 - O Streaming
- Community based: The communication happens in between a group.
 - This category includes both above but adds an element of horizontal delivery of the information the community of peers helps to create and deliver/advice help in the training learning process.
 - The most used platforms today for this kind of approach community based are:
 - <u>https://www.twitch.tv/</u> Streaming platform
 - <u>https://discord.com/</u> Community management platform.





What kind of content do you need:

You need the content that your audience will be more engaged with, and balance it with your production capabilities.

Starting from the less engaging content

- Text based documentation:
 - Whilst it is useful for knowledge based Learning Outcomes, recently and given the amount of inputs which we all are exposed to, is a kind of content in decline. Users will find it hard to engage with this kind of content. Keep it to a minimum.
 - When delivering this kind of content, look for help from a designer to convey as much information into infographics as you can, maximize the amount of information provided with charts, graphs, diagrams etc.
 - The benefit is that it does not require any effort beside writing the material, does not require digital competences but is highly time consuming.
- Slide based presentations:
 - This combines elements from the previous one with the advantage that you can include some interactions using the proper tool.

https://h5p.org/presentation

• There is a standard called <u>SCORM</u> which allows the transfer of this content mostly to LMS. Whilst is highly supported, is an old standard which is starting to be replaced by HTML5.





- Slide based content is affordable with slightly more Digital capabilities needed and it can be easily transferred.
- Audio Content:
 - The podcast format is getting more and more acceptance in the field of training, it is relatively easy to produce and there are plenty of platforms to distribute for free.
 - Most LMS include Audio file playback capabilities.
- Video Content:
 - Training videos are on one side the more expensive to produce properly but the most engaging material and the most effective to convey the transfer of both the learning content and the contexts.
 - o Tutorials and screen recordings, are easier to produce and the most effective tool to transfer information about processes and "How to".
- Live lessons:
 - Stream your lessons in real time using platforms as :
 - https://www.twitch.tv/
 - https://discord.com/

Live lessons are the most engaging format nowadays, you deliver the content yourself, whilst the users can interact on a chat, the information is shared online, posting links, it gives the capabilities to include peer to peer learning, share multiple screens, etc. It's the weapon of choice of the most innovative trainers.

• VideoGame based training:

The most engaging and efficient learning tool, but also the most expensive and exigent in terms of digital capabilities for the trainer.



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Even of, some initiatives are starting to make this feasible for educators with less level of digital competencies, the most relevant example (for kids) is:

https://education.minecraft.net/es-es/homepage

Hosting your content online:

Hosting your content online means in which server your information will be stored and delivered to the internet.

If you or your organisation has a hosting, own domain and website, your technical team will help you with this.

If you are a freelance or a small organisation you may want to use Service providers to host your site.

The most common for educational purposes are :

https://moodle.org/

Which is an LMS

https://wordpress.org/

Which is a website builder



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A second element are the repositories.

Repositories are servers specialised in save and share heavy content, such as Video audio, games, etc.

The most used are :

Video: https://www.youtube.com/ https://vimeo.com/ General assets: https://filecamp.com/ Audio https://soundcloud.com/

Assessment of progress and learning:

IF you need to formally assess your course, you will want to use the assessment tools involved in your LMS, as a general Guidance this could apply to both a formal and non formal level:

Testing methods for learning objectives at the knowledge level,

Learning objectives at the knowledge level generally rely on a theory test. The diversity here lies in the number of different types of theory tests, for example with:

- Open questions
- Closed questions (multiple choice)





- Case study questions
- Fill in the blank
- Put the answers in the correct order
- Click the correct place in the image

Testing methods for learning objectives at the skill level

- Practical test
- Action test
- Practical test
- Simulation
- Performance assessment

Testing methods for learning objectives at the attitudinal level

- Behavioural assessment
- Self-reflection
- Performance assessment
- Practical test

We advise you to seek further information about what testing methods exist. We would also advise that you use more than one testing type, as this will raise the reliability of the results.

Tips And Tricks:

Aim for video lessons of 5-10 minutes max to keep your students engaged



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- Conduct a survey with your participants to understand how they communicate online, which tools and platforms they use and which kind of content they prefer. The more you embrace their behaviours, the more successful will be your online training.
- Keep the text based content to a minimum
- Produce as much visual material as you can.
- Explore yourself what other do in new platforms and with new systems
- Include yourself in Learning communities to keep updated on technology advancements

Good Practices Examples:

• Elena Blanes: Videogame creation Trainer.

This is one of the top Spanish Trainers in her field, her set up is community based using <u>https://www.twitch.tv/elenaimagineer</u>

as a delivery platform and

discord.com for the management of the community, In less than 6 months she engaged a community of more than 500 people.

• Erasmus K2 project Guide 2:

They used a moodle set up to engage a community of practice and deliver the project content and curriculum, the set up has survived the life of the project, has been awarded 2 follow ups and continues its development.

https://goodguidancestories.org/moodle2/





https://goodguidancestories.org/

The Pool of tools.

LMS - Learning management systems:

- Moodle :
 - o https://moodle.org/
 - o https://docs.moodle.org/311/en/Main_page
 - o https://download.moodle.org/
- <u>https://www.talentlms.com/</u> (Freemium).

Communications tools:

- Mail list : On your favourite Mail Manager (Thunderbird, Gmail, Outlook)
- Forum :
 - o https://www.wix.com/create/forum
 - o https://flarum.org/
 - o https://bbpress.org/ (wordpress plugin)
 - o https://join-lemmy.org/
- Chat :
 - o https://backchannelchat.com/
- Video Based Discussion:
 - o https://info.flipgrid.com/





Streaming:

https://www.twitch.tv/ •

Repositories:

• Video: https://www.youtube.com/ https://vimeo.com/ • General assets:

https://filecamp.com/

• Audio https://soundcloud.com/

Community management:

https://discord.com/

Interactive Content:

https://h5p.org/

Game based education:

https://education.minecraft.net/es-es/homepage



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Chapter 5. Making content engaging and interactive (Activities)

Chapter Aim:

- Build activities that encourage them to co-create and peer review
- Create exercises that help students reflect on their own perspectives and learn from one another.
- Combine sharing and commenting with gamification, this makes any course more interactive.
- Interact with students as they work (comment on a document as it is drafted online, drop into a chat room or simply acknowledge students in live sessions)
- Hold online office hours and encourage students to come and bring their questions.
- Create micro-lectures combined with silent activities and group work.
- Record your lessons. Most online courses use video format because it's engaging and enables your students to hear and see you and you can illustrate your points visually.

Introduction

For Innovative approaches in education we need Educators who change their attitude and start to Empower learners and facilitate the acquisition of transversal competences in the new digital era.

The teaching professions face rapidly changing demands, which require a new, broader and more sophisticated set of competences than before. The ubiquity of digital devices and applications, in particular, requires educators to develop their digital competence.

Reference for our analysis

European Framework for the Digital Competence of Educators (DigCompEdu) – a common language to understand and talk about digital competence





https://ec.europa.eu/jrc/en/digcompedu



DigComp Framework provides a common language and terminology to talk about and design projects on digital competence in all areas. It gives coheres to the formative actions and learning offer.

How to swim in the digital ocean – the proficiency level of the target group (this analysis helps us to create tailored content, taking into consideration: complexity of tasks, autonomy of the learner, and cognitive domain)











T.4 Main keywords that feature the proficiency levels										
4 OVERALL LEVELS	Foundation		Intermediate		Advanced		Highly specialised			
8 GRANULAR LEVELS	1	2		4	5	6	7	8		
COMPLEXITY OF TASKS	Simple task	Simple task	Well-defined and routine tasks, and straightforward problems	Tasks, and well-defined and non- routine problems	Different tasks and problems	Most appropriate tasks	Resolve complex problems with limited solutions	Resolve complex problems with many interacting factors		
AUTONOMY	With guidance	Autonomy and with guidance when needed	On my own	Independent and according to my needs	Guiding others	Able to adapt to others in a complex context	Integrate to contribute to the professional practice and to guide others	Propose new ideas and processes to the field		
COGNITIVE DOMAIN	Remembering	Remembering	Understanding	Understanding	Applying	Evaluating	Creating	Creating		

(https://op.europa.eu/en/publication-detail/-/publication/2b2c2207-5ca2-11e8-ab41-01aa75ed71a1/language-en) What is the difference: Gamification vs. game-based learning






Gamification applies game elements or a game framework to existing learning activities	Game-based learning designs learning activities that are intrinsically game-like
Example: An online discussion forum for a Physics course might be gamified via a badge system : students might be awarded a "Ptolemy" badge after they have made 10 postings, a "Galileo" badge after 20 postings, "Kepler" after 30, "Einstein" after 40, and so on. In ideal	Example: In an Economics course, students might compete in a virtual stock-trading competition; in a Political Science course, students might role-play as they engage in mock negotiations involving a labour dispute. ¹

¹ <u>https://uwaterloo.ca/centre-for-teaching-excellence/teaching-resources/teaching-tips/educational-technologies/all/gamification-and-game-based-learning</u>





gamified learning environments, students can see the online badges that their peers have earned to create a **sense of competition**.

Gamification aims at improving the technology use by applying in non-gaming or professional contexts video game techniques. Very often, these techniques are based on the concepts of **motivation**, **enjoyment**, **engagement**, **commitment**, **attractiveness**, **emotion**, etc., which, once implemented, are expected to improve user and business performance. (https://www.researchgate.net/publication/255708104 Process of Gamification From The Consideration of Gamification To Its Practical Implementation)

The gamification of learning is an educational approach to motivate students to learn by using video game design and game elements in learning environments [Kapp'2012]. The goal is to maximize enjoyment and engagement through capturing the interest of learners and inspiring them to continue learning [Huang'2013]. Gamification, broadly defined, is the process of defining the elements which comprise games that make those games fun and motivate players to continue playing, and using those same elements in a non-game context to influence behavior [Deterding'2011; E-learning Heroes'2014]. Learning content can be presented in a much more attractive way for the students by using gamification. Game-elements and game-techniques, included into a non-game content can be used to encourage the learners to follow the ultimate goal. At the same time, they train their research abilities in achieving the educational goals. (https://core.ac.uk/download/pdf/62662224.pdf).

How does the game influence learning?





- **ENGAGE** the participants into learning by increasing MOTIVATION. It works as an extrinsic motivator, which can spark an interest in the subject matter. Positive learning experiences strengthen the learner's self-efficacy and faith in his or her own abilities.
- **ACTIVATES** the learners. You can't succeed in a game if you don't do anything; you only win (learn) by actively participating in the game.
- **EMPOWERS** the sense of responsibility. A game's objective, story and rules direct the players' actions. Within this framework, they have the freedom to decide where the game takes them. At the same time, they're taking responsibility for their own learning.
- **EMBRACE CREATIVITY** and **PROBLEM SOLVING**. Different kinds of tasks challenge to show your know-how. Tasks can require searching new information, creative problemsolving, or using your imagination.
- **ENCOURAGE COLLABORATION.** When learners solve tasks as a team, they can utilise the knowledge and strengths of individual team members and come up with solutions together. Achieving a common goal fosters team spirit, which continues to live on even after the game has finished.
- ACTION. Games encourage the players to try out new things and to take risks. In a game, it's okay if you don't know how to do something straight away because failing and learning from it are a part of the game. You can use the positive experiences for your advantage, but "failures" can be explained by pointing out that it was just a game.

Examples for usage of game-elements and game-techniques in non-game context



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Game-elements and techniques	Usage in electronic or board games	Usage in e-learning
Story	Passing specially designed sequence of events	Students learn through educational schedule created by the teacher
Rules	List with instructions of what is allowed and what is not	Requirements and recommendations for the course
Research ability	Search for hidden treasures	Including extra content (more learning resources)
Interactivity	Development of different potential in players through a variety of interactive actions	Practice of various interactive activities, leading to a higher level of understanding and remembering
Feedback	Indication from the game that an action or progress has been noticed	Usage of points, badges or other awards to show that there is development detected
Time limits	Simulation of extreme situations	Time limits for tests and exams
Reluctance to loss	The loss is twice more motivating than the win	Motivating learners with leaderboards and levels
Repetition of levels (the whole game)	Opportunity to better the last performance	Predispose to re-study the learning resources
Continuation game	Opportunity to continue the game after it has been left	Continuing the learning at the point it's been left

(source: M. Gachkova, E. Somova, Game-based approach in E-learning)





Co-creation of learning: development of contents and integration of gamification elements



All teachers/educators need to remember about the importance of the GUIDELINES for online students to achieve educational goals

The main guidelines for effective online students revolve around **6 main concepts**:



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- 1) **LEARNER READINESS** distance learners need to be ready to learn. Students must be prepared to learn, which includes: a) figuring out if they are prepared to learn online; b) knowing their strong and weak learning style, and c) having the necessary foundation for the content.
- 2) TECHNOLOGY students who are following an online course need to understand: a) hardware and software requirements, b) basic computer skills, c) Internet searching, d) research skills, and how to access assistance.
- 3) TIME MANAGEMENT students are generally used to work in a leader-led environment, during online learning the students experience more of a student-centered environment. There are not set class times and sometimes there are not even set due dates. It requires self-discipline. Learners need to set short-term and long-term goals throughout the course.
- 4) **DISCIPLINE AND MOTIVATION** must have a motive that will drive them through the course. Learners must take responsibility for their learning process.
- 5) **COMMUNICATION** to make students feel recognized need to give them informative and acknowledgement feedback. The role of communication is to avoid the feeling of isolation and allow and encourage to socialize. There are many ways to communicate in an online course: email, bulletin boards, blogs, tweets, chatrooms, instant messaging, video conferencing, avatar spaces.
- 6) **SENSE OF COMMUNITY** students need to build a community within their course, so they do not feel isolated, and they can learn more from one another.

Gamification Examples in Education	
Kahoot!	Classroom response system played in real time, it's used as educational technology in schools and other educational institutions. Kahoot allows for the design of multiple-choice quizzes as well as polls and surveys that populate on-the-spot data; the quiz questions and polls





	stimulate quick instructional decisions as well as whole- class discussion. Find more: <u>https://kahoot.com/schools/</u>
	Language-learning website and mobile app. Duolingo mimics the structure of video games in several ways to engage its users. It features a reward system in which users acquire "lingots" or gems, an in-game currency that they can spend on features such as character customizations or bonus levels. On public leaderboards, people can compete against their friends or see how they stack up against the rest of the world in randomly selected groupings of up to 30 users. The level system that Duolingo uses is XP (experience points), a numerical system that represents a user's skill level. Badges in Duolingo represent achievements that are earned from completing specific objectives or challenges. Find more: <u>https://www.duolingo.com/</u>
🛇 Khan Academy	Educational organization created with the goal of creating a set of online tools that help educate students. Khan Academy's website aims to provide a free personalized learning experience, mainly built on the videos which are hosted on YouTube. The website is meant to be used as a supplement to its videos, because it includes other features such as progress tracking, practice exercises and teaching tools. Throughout the lessons, users can earn badges and energy points, which can be displayed on their profiles. Find more: <u>https://en.khanacademy.org/</u>



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ClassDojo	ClassDojo connects teachers with students and parents to build amazing classroom communities. ClassDojo allows students, teachers and families to communicate. To use ClassDojo, teachers register for a free account and create "classes" with their students.They can give students feedback for various skills in class. These are customizable, and teachers can change the skills to adapt to the needs of the class or of the school. Teachers have the option to post pictures and videos onto their class's story, or to their school story. ClassDojo, its app is used by teachers, children and families in 95% of pre-kindergarten through eighth grade schools in the United States, as well in a further 180 countries. Find more: <u>https://www.classdojo.com/it-</u> it/?redirect=true
Quizlet	Quizlet is a company which creates and designs tools used for studying and learning. Quizlet's primary products include digital flash cards, matching games, practice electronic assessments, and live quizzes (similar to Kahoot!). Thanks to Quizlet teachers can introduce collaborative online learning inside the classroom. Find more: https://quizlet.com/login
seppo°	SEPPO gamification platform. You can create a gamification elemnt to any environment with Seppo tool. Choose a jpeg, png, gif, 360° image or a GPS map as your gameboard. Players play with mobile devices in groups or by themselves. You can create videos, audios and text straight on Seppo, and add pictures and links to additional content in your tasks. Players solve the tasks using mobile devices, leveraging the multimedia possibilities. During the game the educator can monitor the game, assess answers submitted by the players and



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give feedback. Earning points, working together and	
seeing progress motivates the players.	
Find more: <u>https://seppo.io/</u>	
(source: https://inoxoft.com/gamification-and-simulation-in-education-and-corporate-	

learning/)



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Coordinator



Partners









