Six steps to Design e-learning Experiences

Guidelines for VET blendend training, based on custom e-learning
08/08/2023

Customized e-learning

CLIMB — Custom Learning through Innovative Methodologies and Blended training

1- Needs Analysis

2- Define learning goals

3- Design for learning

4- Develop the course

5- Delivery of the course

6- Evaluationt

Consortium:

- Soluzioni d' Impresa Srl, Italy
- Action Synergy SA, Greece
- Consufé, Denmark.

CLIMB Methodology

This e-book has been developed as part of the CLIMB project".

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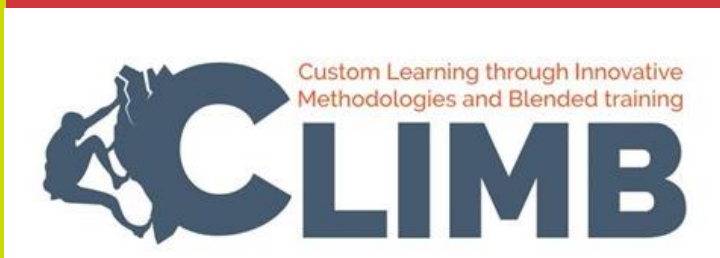
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CLIMB Methodology

How?

The key factor for customized e-learning is to understand learners
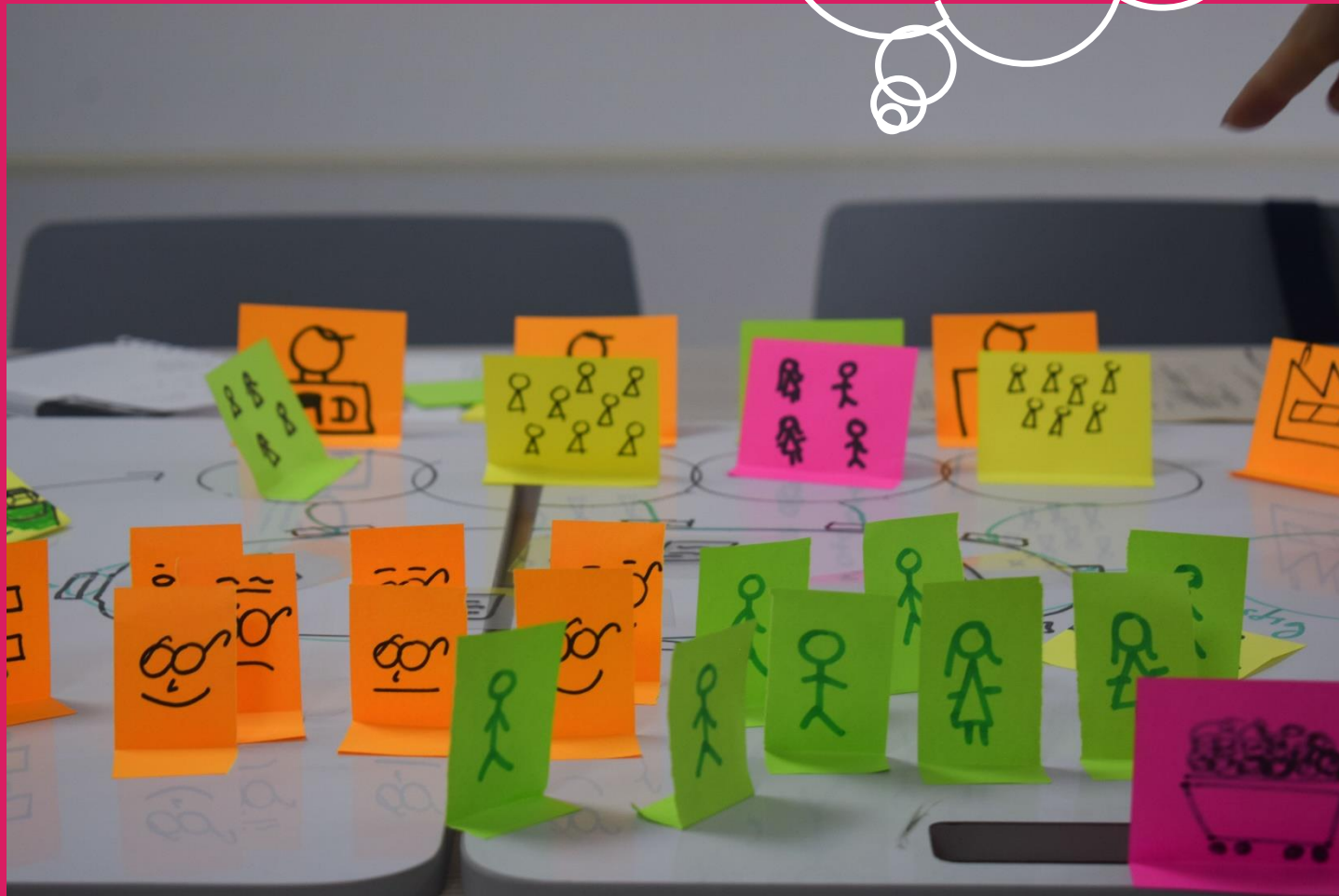
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INTRODUCTION

The CLIMB methodology is target for educators/trainers from VET institutions and has the goal of being a practical tool to support the design of customized blended e-learning experiences.

The methdology was slowly developed as the CLIMB project progressed, starting with a research and analysis phase where best practices and innovative metheodologies, and technologies to design customized blended e-learning courses, were collected. This inicial phase was followed by a qualititative study to get a deeper understanding of the customize blended e-learning practices in the context Denmark, Greece and Italy.

Finally, three pilots, in three diferent sector and countries, were implementend using the methodology:

Pilot 1: *Inventare Insieme Onlus, Italy.* This was a totally asycrhonous custom e-learning course without facilitator.
Pilot 2: *Aalborg Forsying, Denmark.* This was a blended learning (physical and online) course with facilitator.
Pilot 3: *Hellenic Culture Centre, Greece.* This was an online blended learning (synchronous and asyncrhonous) with facilitator.

INTRODUCTION

In this short e-book, first, we embark on a quest to understand the essence of customized blended e-learning and explore some of the trends of innovative approaches, pedagogies and technologies that are guiding the design and implementation of customized blended e-learning.

In the second part, we present in detail each of the steps of the CLIMB methodology, providing examples of the methodological steps using the experiences from the pilots.

What is Customized blended elearning?

As Asharft et al. (2021) indicates there are many different terms to refer to blended learning approach: *"brick and click" instruction, hybrid learning, dual-mode instruction, blended pedagogies, HyFlex learning, targeted learning, multimodal learning and flipped learning"*.

These variety of blended learning definitions provides a source for creativity and innovation, as well as flexibility to adopt the more convenient approach for the organizations. In CLIMB we have chosen to work with the following definition of blended learning:

"Learning that happens in an instructional context which is characterized by a deliberate combination of online and classroom-based interventions to instigate and support learning. (Boelens et al., 2015, p. 2).

Furthermore, the blended aspect means also the combination of different technologies and different learning approaches to design meaningful and relevant learning experiences.

What is Customized blended e-learning?

When it comes to the term "customized", the focus is on training needs of the target group. Personalization is a way to adapt the content and training experience to these needs and client engagement. *With a personalized path, the student can freely decide when, how and what to learn with clear training benefits.* The point is how to customize an online course without losing sight of the training objectives and in the less expansive way.

Lovold (2022) gives some recommendations to customize e-learning courses:

- ✓ Provide access to **massive learning library** that is relevant for the learners. This is related to curate learning content which is discussed in the step 4 of the CLIMB methodology
- ✓ Offer **content in multiple formats** empower the learners
- ✓ Provide **digital and physical space** that supports the learning experience
- ✓ Incorporate **instructor-led training**. Incorporating video conferencing, chat and direct feedback features makes learning accessible and inclusive
- ✓ Provide ways for the learner to **measure and see their learning progress** and outcomes.

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Relevance of Custom blended e-learning in the VET sector

We might ask ourselves, why custom blended e-learning is relevant?

In the CLIMB project we found at least four reasons:

It helps use to target learning: during the literature review and the interviews, we found that organizations are more pressed to adapt to the constant change. For example, the Future of Work Report for 2023, indicates that in the next 5 year, companies need to train at least 44% of their employees. Then as organizations, we need to be very clear about what kind of knowledge and competences our employees need and how to help them to acquire the knowledge and competence as fast as possible

and the Customized e-learning allows us to target specific learning needs and address the unique requirements of your learners. By tailoring the content, activities, and assessments to the individual or organization, we can provide more relevant and impactful learning experiences.

Relevance of Custom blended e-learning in the VET sector

It increases engagement and motivation: when learners feel that the content is designed specifically for them, it creates a sense of personalization and relevance, motivating them to actively participate and invest in their learning journey.

It helps to create flexible learning paths: in our organizations we have people with diverse needs, preferences, and skill levels. Using advanced technologies, we can offer to our learners to progress at their own pace and focus on areas that require more attention,

resulting in a more efficient and effective learning experience.

It helps to gain a competitive advantage in attracting and retaining top talent. Skilled professionals seek opportunities for growth and development when considering their employment options. By providing personalized and relevant learning experiences, organizations position themselves as desirable employers, creating an environment where skilled employees are more likely to stay and contribute their expertise.

Trends within customized blended e-learning

What are the main findings from the CLIMB project about the trends related to customized blended learning?

New learning approaches such as:

- Scenario based learning
- Problem based learning
- Social learning

Design process of focus on co-creation rather than in solo design

What we noticed in the literature and in the examples from our interviews is that the design process should be clear and characterized by active engagement, collaboration and co-creation among stakeholders.

Trends within customized blended e-learning

What are the main findings from the CLIMB project about the trends related to customized blended learning?

New technologies develops new ways of learning:

- Mobile learning
- Micro-learning
- Adaptive learning
- Self-generated content
- Video learning
- Gamification
- AI and Big data

Focus on the learners

Learner-centeredness is a significant trend in the field of e-learning and education as a whole. It refers to an instructional approach that places the learner at the center of the learning experience, tailoring the content, activities, and assessments to their needs, preferences, and goals.
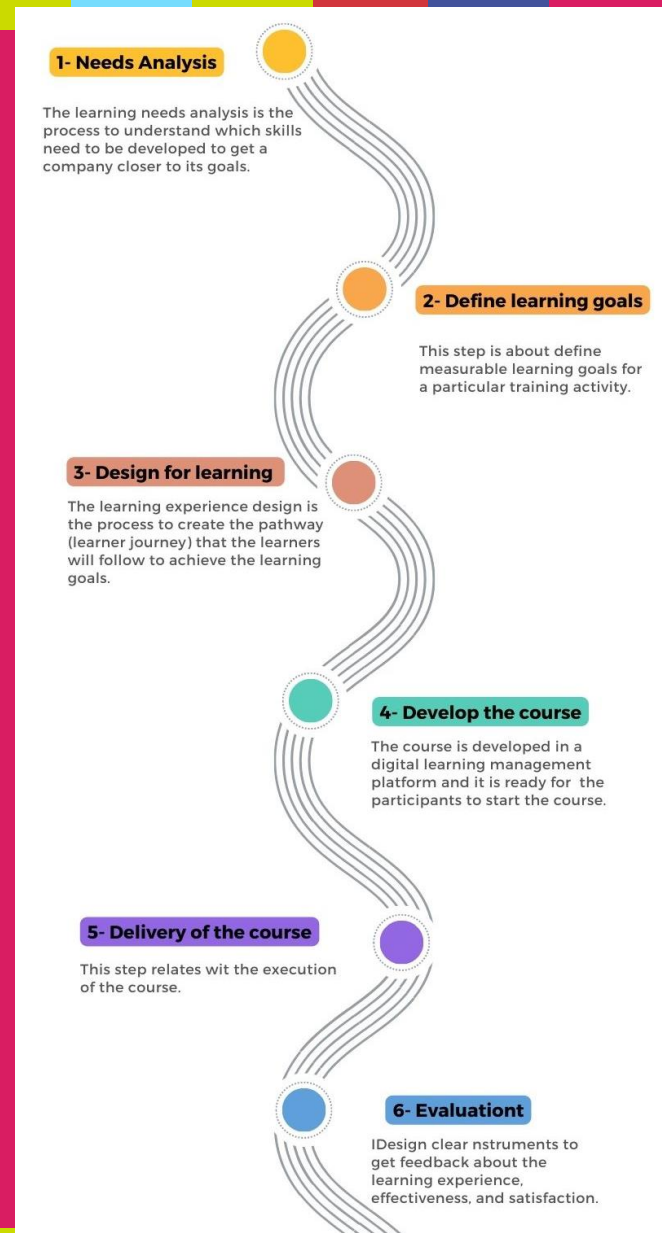
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How to design Customized blended e-learning experiences?

The road that the C.L.I.M.B. project wants to open is innovative and, therefore, difficult and full of unknowns, such as:

✓ *How to precisely define the skills gaps to be recovered?*
✓ *How to find training content, already available, in the infinite universe of the web and choose them for specific gaps?*
✓ *How to design the learning path with the right learning tests?*
✓ *How to choose a specific technology platform or to be focused on the method by making the courses usable on many platforms?*

In CLIMB, we believe that a clear set of steps will help organizations to design effective e-learning experiences that would respond to their specific needs and target groups, theretofore, **we suggest six steps** that would help organization to do it. Those steps are based on the review of literature and empirical data.

1- Needs Analysis

The learning needs analysis is the process to understand which skills need to be developed to get a company closer to its goals.

2- Define learning goals

This step is about define measurable learning goals for a particular training activity.

3- Design for learning

The learning experience design is the process to create the pathway (learner journey) that the learners will follow to achieve the learning goals.

4- Develop the course

The course is developed in a digital learning management platform and it is ready for the participants to start the course.

5- Delivery of the course

This step relates wit the execution of the course.

6- Evaluationt

IDesign clear nstruments to get feedback about the learning experience, effectiveness, and satisfaction.

STEP 1: need analysis

The first crucial step in designing customized e-learning experiences is Needs Analysis. This step focuses on gaining a comprehensive understanding of the specific challenges, requirements, and learning needs of the target audience and organization. By conducting a thorough needs analysis, the learning designers/trainers/instructional designers can gather valuable insights that serve as a foundation for developing relevant, engaging, and effective e-learning courses.

How to do

1. **Identify stakeholders:** Start by identifying key stakeholders, including learners, subject matter experts, and organizational leaders. The most common method for conducting a needs analysis is a meeting with the manager of the company, the HR manager or generally, the person that is going to be responsible for the monitoring of the training.

2. **Data collection:** Employ various data collection methods such as surveys, interviews, focus groups and workshops. Collect information on learners' existing knowledge, skills, and performance gaps.

You should collect data about:
- ✓ Strategic goals of the organization
- ✓ Skills that learners should acquire
- ✓ Characteristics of the target group
- ✓ Time available for the training
- ✓ Modality of the training

3. **Compile findings:** with the data collected create a comprehensive report to continue with the definition of the learning goals.

Two tools are recommended to run the Needs Analysis, which are presented in the next page.

Application of the methodology *in Aalborg Forsying, Denmark*

AF is a heat supply company from Denmark, and they were one of the pilot companies who develop a customized e-learning course using the CLIMB methodology. The Needs Analysis was carried out as dialogical conversation where a learning designer and a team of 4 people from AF participated. In two sessions of two hours each, they collected data to understand the company's needs and to define the learning goals for the course.

Alignment with the strategic goal: the Department has a specific need to train people to run a weekly test of an emergency generator and be able to start the generator if needed. Failing to run weekly test might cost the company to get in serious issues related contracting and regulations requirements.

Target group: technicians (mechanics and electricians) from the department of Heating. Most of the learners are in the age of 45+ years old, while a small number is around 25 years old. Therefore, the learning experiences should be carefully designed because the big age gap between the learners. The learners have the ICT competences to access online learning, however, the younger group is more into digital learning and digital active learning, such as gaming.

Skills: how to run a weekly test of the emergency generator located in a specific address. Start the negator in case of emergency.

Context of the training: The department is very busy with their daily activities, and it is difficult to put time aside to develop training. Potential learners have limited time to participate in learning activities.

Characteristics of the training: short, contextual, and practical.

Recommended tools

In CLIMB, we created two different templates for doing Needs Analysis. Both tools collect the same information but use a different approach to collect it. The Word format template can be used for interviews or survey, while the PDF template is based on visual thinking and co-creation approach, support dialogical sessions.

Download a word version

Download a PDF version

The overall learning goal that have been defined in Step 1, need to be further analyzed in order to define the concrete learning goals. The learning goals are defined in relation to knowledge and skills.

How to write learning goals

The Blooms taxonomy is used in order to define the learning goals of the course, which present cognitive objectives describes learning in six levels in the order of: knowledge, comprehension, application, analysis, synthesis and evaluation

We recommend this resource https://www.growthengineering.co.uk/ to

learn more about the bloom's taxonomy.
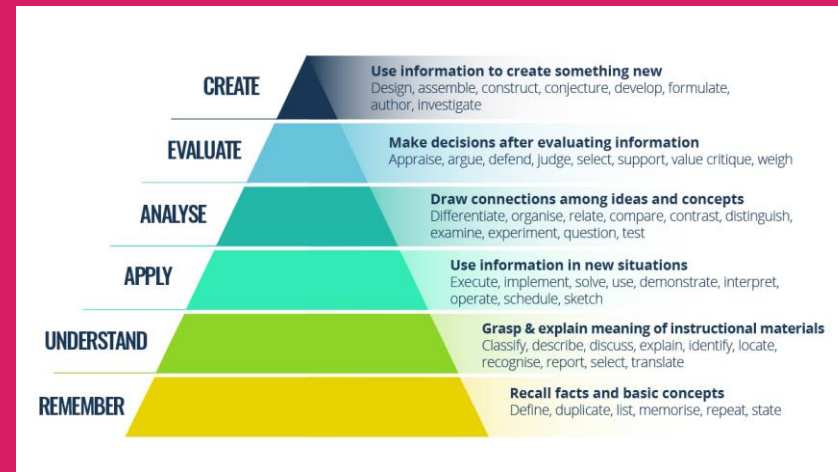
Format to write learning goals

We recommend to define the learning goals in the following format:

At the end of the course the learner should be able to _____ (verb that represent a level within the Blooms taxonomy) and the concrete action that the learner is expect to do once the competence/knowledge is acquired.

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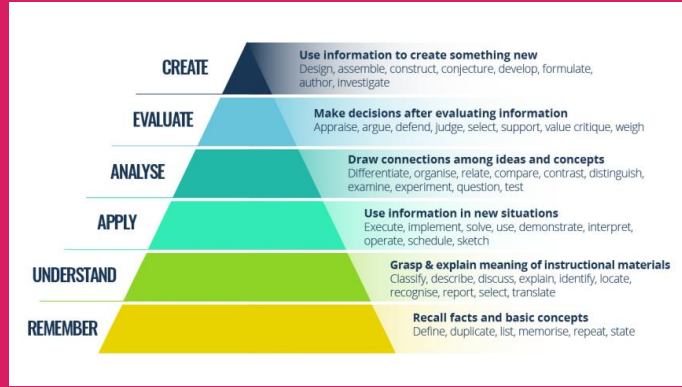
Application of the methodology *in Aalborg Forsying, Denmark*

Continuing with the example of the course developed by AF, the learning goals defined were:

In the end of the training the learner will be able to:
- ✓ Explain why it is important to run the test of the generator
- ✓ Synchronize the generator (know what the synchronization is and how do it)
- ✓ Run the test of the generator with 75% precision and with 100%
- ✓ Respond to possible failures during the testing of the generator

STEP 3: Desing learning experiences

In Step 3, is where ideas come to life and learning pathways take shape. With the foundations laid in the needs analysis and learning goal definition, this step embraces creativity, innovation, technologies and available resources to define a set of activities and resources that will help the learners to achieve the learning goals.

By learning experiences, we mean the different kinds of activities that are carefully designed for a person to learn a specific topic or develop certain skills. This approach is based on experiential learning which recognizes that learning happens through experiences related with the **learner situation** and **context** and not much through content. This way of framing your blended learning activities shift the mindset from content and facilitator centered approach to a learner centered approach.

In Climb we believe that learning happens through social interaction, collaborative learning and by doing. Therefore, we promote creating meaningful learning environments that allow learners not only memorize concepts but real changes that will affect their performance in their work.

STEP 3: Desing learning experiences

How to Do:

1. **Ideation and Brainstorming:** In this phase, the design team can run brainstorming, generating a rich tapestry of learning activities, content, topics, technologies, and assessment methods.

2. **Get inspiration**: use some time to review; new technologies, pedagogies and learning activities support transformative learning. This will enrich your ideation and brainstorming , use some time to review

3. **Construct the learning pathway**: review each idea with discerning eyes. The team selects the most feasible learning activities, content, technologies and assessment shape a learning experience that is not only captivating but also practical and achievable.

4. **Create a course blueprint**: Transfer the selected ideas and decisions to a final document where you keep track of the learning activities, content, modalities and technologies for each of your learning goals. This is the document is the base for the next step.

Three tools are recommended to **design the learning experience**

Recommended tools

In this step of the CLIMB methodology, we use three tools:

The brainstorming canvas: for collecting ideas about all the elements of your course

Inspirational cards: concrete examples of possible technologies, learning activities and pedagogies that could be used in your design

Course blueprint template: the collection of all the information about your course – vision, target group, learning goals, duration, schedule, activities, etc.

Download the Blueprint

Download the brainstorming canvas

Download the inspirational cards

In practice:

In the following table, we present part of the course blueprint for AF (only for one of learning goals).

Learning Goal 2: be able to synchronize an emergency generator to the grid, ensuring it is operational and safe to use during power outages				
Learning Experience	**Description**	**Content**	**Technology**	**Modality**
Experience 1: Immersion	In this learning experience the learners are presented with a 360-degree video where they can experience the environment where the generator is located, and they can explore the total room and the generator.	Components of the generator (image with the description of the bottoms of the generator dashboard). Immersive video Discuss the safety procedures and guidelines that should be followed when working with an emergency generator. PDF with of the equipment required for testing the emergency generator.	LMS Immersive technology	Totally online
Experience 2: Inspection	Here the learner is instructed about how to perform a visual inspection of the generator, checking for any signs of damage and proper ventilation.	PDF of a check list of all the aspects to verify before starting the test.		
Experience 3: Demonstration	In this learning experience the learners are presented with the step by step of the synchronization process. This could be a normal video. The steps should include the elements in the content column.	Video with step by step of how to synchronize the generator. Manual with the step by step of how synchronize the generator. This includes a discussion of the importance of monitoring the voltage, current, and frequency during the synchronization process to ensure that the emergency generator is safely and efficiently synchronized to the grid.		

STEP 4: Develop Course

This step of the CLIMB methodology consists in moving from the blueprint (ideas) to a ready course to be launched (a product).

How to do:

✓ Development or curate the content

✓ Select the digital learning platform

✓ Create the course in the digital platform

✓ Consider the cost development factor

Content development

There are many varieties of content formats for blended e-learning courses: audio, video, interactive boards, pictures, infographics, text, simulations, etc. The most important aspect that we found about content, is that it should be able to support the engagement of the learners and that courses should provide different formats of content presentation. Furthermore, the design team will be dealing with the decision of **create or curate content**.

Content creation refers to the process of creating your own content from scratch. While content curation is the process of gathering existing information from different sources and organizing them in a way that learners will get only what is important for their learning process.

STEP 4: Develop Course

When working with content curation that does not belong to the organization, it is important to consider:

Reliability

- ✓ Authority (who is the author of the source?)
- ✓ Update (when the source were created?)
- ✓ Accuracy (is the source based on facts/research?)

Copyrights

- ✓ Not all the material available on internet can be used freely. If the design team is reusing available material, it is important to check the copyrights of the material and if necessary to seek for the correspondent permissions to use the material. Some material can be under open educational resources licenses.

Technology selection

The design team should decide about the learning management system (LMS) that will be used to hold and run the course. There are many different options of LMS, if the organization already has a platform, the issue is solved, but if the design team should decide which digital platform to use, the issue can be very complicated, as there are many factors to consider.

In the CLIMB project we experienced with platforms such as Microsoft Teams, Moodle and third party (payment per user). Ultimately, the decision depends on the course requirements, the desired level of customization and reporting and the resources available. If the course demands strong tracking and assessment capabilities, platforms such as Moodle might be the preferred choice. On the other hand, if flexibility and collaboration are vital, Microsoft Teams could be more suitable. It is crucial to evaluate platforms against the specific needs of the custom e-learning course to make an informed decision.

Cost setting

The decisions between create or curate content, the digital learning platform, the format of the content, the modality of the training activity, with or without facilitator, will impact the cost of the development of the course.

In CLIMB we identified three scenarios what have a significant difference in the final cost of the development of course:

✓**Expensive scenario:** this is when the design team needs/chooses to develop the all the content for the training, blended approach (online and in-person) and there is a facilitator

✓**Medium expensive scenario**: this is when the design team chooses to work fully online (asynchronous and synchronous activities), curate and create content and there is a facilitator

✓**Cheap scenario:** the design team chooses a full online and self-pace approach, and all the content has been curated.

Application of the methodology in *Inventare Insieme Onlus, Italy*

Non-profit association, Inventare Insieme Onlus deals with social and territorial development, through financed projects that are repetitive and complex due to the amount of information and documents they require. Small company of 30 employees and n. 10 workers receiving the course.

Peculiarity if the Pilot:

Target group: Management activity; Work area coordinator; Pedagogical coordinator; Administrative activity; Social worker; Educator. Employees from 32 to 60 years old.

Training needs: skills necessary to implement an internal Digitization process through the implementation of the Microsoft 365 suite.

Overall goal of the training: How to use Microsoft Teams, SharePoint, OneDrive, Technical skills concerning Microsoft and its application customized for company processes.

The Inventare Insieme Onlus pilot falls within the sceneario of cheap scenario of course development.

Curation process: The custom-designed course consists of three topics (Microsoft Teams, SharePoint, OneDrive) divided into micro modules, which consist of texts and videos with tutorials and practical examples, to learn the main features of Microsoft 365 and OneDrive. Self-learning questionnaires and proposed exercises, with reference to the operations or difficulties encountered daily at work.

In agreement with the pilot company, a simple route was created without technological superstructures.

The contents used for the development of the course have been acquired mainly from official sources, free from copyright, updated and scientifically approved and authorized for dissemination (e.g. Microsoft, YouTube). The examples and practical cases used took into account the reference sector of the company, for the purpose of greater contextualization.
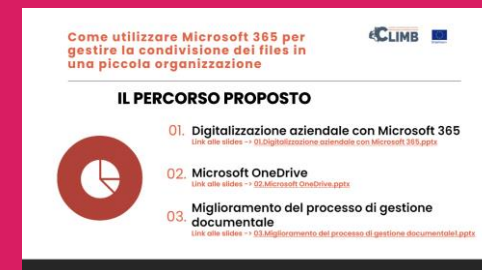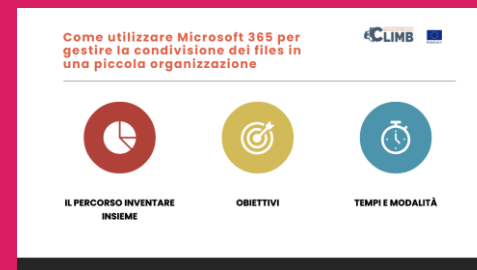
Curation process:

Several resources were involved for the definition of the learning pathway (designer, expert consultant on the subject, content creator), who discussed with each other and with the company contact person (director of the company), to acquire the elements necessary to carry out a sorting careful and focused elements in the vast amount of content and information available in the web.

The material chosen for the course, organized according to self-supporting teaching pills, is a combination of texts, videos, practical cases and exercises, as well as learning self-assessment tests, organized according to specific sequences in relation to the progress of the course and preliminarily validated by the company contact person.

Digital platform: it was decided to use the same tool of the training: Microsoft Teams. It was created an access account for each participant. Usable and accessible from any device.

The platform also represents the virtual space for a possible confrontation between the participants and the technical assistant who offers the requested support in asynchronous mode.

Self-pace approach: Personal needs, the learning style of individuals, the skills and interests of the company were the basis of the design of the course. Simple contents, self-supporting "didactic pills" (micro learning object), application examples, free and autonomous usability by the individual participant are the characteristics of this pilot course. Some of the participants had already followed a traditional course in the past on the same topics, but the company wanted to create a dedicated and selected "teaching package" that could be shared with all the staff and accessible in this phase of implementation of the Microsoft 365 suite in the processes corporate. The course collects a series of useful elements and practical advice immediately available to users.

This step is the actual implementation of the course.

In CLIMB we suggest that customized blended courses can be delivered in three different modalities (see the table).

Type of Course	Advantages	Disadvantages
Online Asynchronous	Allows flexibility in timing. Every learner can follow the course at a place and time that is more convenient him/her	It is less interactive, it does not promote collaborative learning, it does not allow the trainer to have a direct contact with the learners
Online blended: Synchronous and Asynchronous	It combines the flexibility of the asynchronous course with a personal communication which allows better and more direct interaction between the participants and the trainer	It is less flexible that the asynchronous, it is less engaging from a blended course
Blended: in person and online	It combines personal interaction with the trainer, interactive activities, and the flexibility of an online course. The trainer has a better connection with the participants	It is not possible to deliver training to learners that are in a different location from the one of the trainer. Increased costs.

How to do

To support this step in Climb we have prepare this check list of the things that you should keep in mind and should do:

- ✓ Create the instructions and the forms that will allow potential participants to sign up for the course. Make sure that when participants sign up, they get confirmation and clear instructions about how to get access to the courses
- ✓ One week before the course starts, send a Welcome email to the participants. The welcome email should include the learning goals, the timeline, introduction of the facilitators, the main learning activities, requirements to get the certification and contact information in case of questions or problems
- ✓ If your learners are not familiar with your learning platform, make a short video telling them where and how to find the different functions and materials.

- ✓ Send a weekly email to guide the learners, this could be telling them what they achieved the previous week and what they are going to do the week after. If the course is a self-paced course, make sure that when you finish a unit you make a summary of what they should have achieved and what they will find in the coming activities and content.
- ✓ Make sure that you collect data to improve your course in the future
- ✓ Make sure that you follow up the progress of the participants
- ✓ Clearly describe how the participants will earn a certification, if after successful completion of the course participants will receive one.
- ✓ When the course comes to the end, make sure that participants receive an email with a formal closing of the course.

At the end, the course needs to be evaluated. The purpose of the evaluation is to:
- ✓ Reflect on the successes and challenges of the course
- ✓ Improve the training the next time it will be organised

How to do

The training evaluation needs to be based on the feedback from the **participants** of the course as well as the **company**. The feedback from the participants can be gathered right after the end of the course, while the feedback from the company can be gathered a little bit after when it will be able to comment on the new skills of the learners. The parameters that are going to be evaluated include: learner experience and satisfaction, effectiveness, customer satisfaction.

These can be measured with an evaluation questionnaire that should be brief and allow the participants to reflect on the whole course and the skills acquired. The evaluation should be linked to the learning goals defined in step 2.

The feedback from the company could be made through a discussion with the person that was involved in the Needs Analysis (Step 1).

In the framework of this discussion, you will need to go through the different learning objectives that were set and discuss whether they have been achieved. You will need also to address the challenges that were faced during the course (if any) and how these could be improved.

Application of the methodology in *Hellenic Culture Centre*

It was used the following evaluation instruments:

- Evaluation questionnaire which was compiled by the participants right after the end of the course in the form of a Google Drive. In this questionnaire, it is evaluated how well they have achieved their learning objectives (which were related with online teaching of the Greek language) and how well they can develop the tasks for which they were trained. In the same questionnaire, the participants were asked to point out the most useful aspects of the training and what would they change.
- Interview with the company. The company in the framework of this interview has identified:
  - Aspects that need to be improved in the next version of the course: duration of the synchronous courses, typology of materials, duration of the course, mentality of the teacher.
  - Process of development of the e-learning course especially in relation with the cost effectiveness of the process.
  - Benefits for the company in relation with expanding its experience in short courses and gaining back its former students, developing the capacity of the company to develop online courses in specialised subjects.

Final recommendations

CLIMB project has allowed us to identify and understand some key points of custom eLearning and blended learning: *technology, customization, learning and methodological approaches, pedagogy, cost, and challenges to design customized blended learning.*

In this last page of the e-book we would like to give some general recommendations to keep in mind, if you embark in a journey of designing customized blended learning experiences:

Choose a Learning Management System-LMS platform that allows active learning and learner centered learning. Furthermore, look after platforms that will use artificial intelligence and data analysis to track learners progress and competences development. This will help to apply adaptive learning.

The participant must be free to explore different contents in a very short time and, often, the acquisition of information follows inorganic paths, jumping from one idea to another in continuous references.

There are many new technologies that can support meaningful and effective learning, remember to link those technologies with pedagogical principles. In other words, it should be learning driven and not technology centered.

Understand your target group and the learning goals before deciding the delivery modality

Final recommendations

Adopt learner-centered design

Design training courses with real problems, contextual situations, concrete cases concerning the target group (problem-based learning, scenario-based learning, real problems and group work).

To ensure effective customization, you don't need an infinite list of contents, but a few tricks are enough:
- ✓ Divide the lesson content into small modules to allow the student to select the micro-topic to learn.
- ✓ Make the sequence of lessons on the LMS flexible. In this way the student can skip the content he already knows and select what he wants to learn.
- ✓ Curate the content by reporting examples, case studies and games in line with the students' interests.
- ✓ Provide for different ways of using the same content: video, audio, text, presentations.

The curation of content is a way to go, however, it is a new field that needs more methodological guidelines, follow the development of the topic to get more competences to apply content curation

The creation of high-quality e-learning content can be a costly endeavour. Despite efforts to explore cost-effective alternatives, it was observed that creating tailored and engaging content required a significant investment of time

The alignment between training goals and company's needs is one of the most relevant issues within learning and development in the corporate sector. In the other hand, L&D professionals and leadership might have difficulties to talk the same language. The utilization of a co-creation workshop to identify the needs analysis provides a successful approach. Dialogical sessions facilitated active participation, collaboration, and knowledge sharing among leadership, technical staff, and learning designer

References

1. Ashraft, M., Yang, M., Zhang, Y., Denden, M., Tlili, A., Lui, J., Huang, R., & Burgos, D. (2021). A Systematic Review of Systematic Reviews on Blended Learning: Trends, Gaps and Future Directions. Psychology Research and Behavior Management, 14, 1525–1541. https://doi.org/10.2147/PRBM.S331741

2. Boelens, R., De Wever, B., Van Laer, S., & Elen, J. (2015). Blended learning in adult education: Towards a definition of blended learning (No. WP2-Adult Learners Online; p. 2). https://www.researchgate.net/publication/2811 16831_Blended_learning_in_adult_education_t owards_a_definition_of_blended_learning

3. Lovold, S. (2022). Training Industry. Rethinking Strategy: 5 Considerations to Improve Learning Efficiency With Personalization. https://trainingindustry.com/articles/personalization-and-learning-pathways/rethinking-strategy-5-considerations-to-improve-learning-efficiency-with-personalization/?utm_medium=email&utm_campaign= trainingindustry&utm_source=weekly

4. Margaryan, A., Bianco, M., & Littlejohn, A. (2015). Instructional quality of Massive Open Online Courses (MOOCs). *Computers & Education*, *80*.

5. Poór, J., Sasvári, P., Szalay, Z., Peto, I., Gyurian, N., Suhajda, C., & Zsigri, F. (2020). The implementation and management of e-learning in companies: The state of e-learning in Hungary based on empirical research. *Journal of Engineering Management and Competitiveness (JEMC)*, *10*(1), 3–14.

6. The future of the Job Report, 2023: https://www.weforum.org/reports/the-future-of-jobs-report-2023/

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