



SCHOOLS TOWARD THE 3E: ETOOLS, EMODERATION AND EASSESSMENT
ERASMUS + | 3E@SCHOOLS | 2021-1-PT01-KA220-SCH-000027715

3E Elearning Course

REPORT



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INTRODUCTION

The pandemic prompted a range of policy responses aimed at curbing the virus's spread, with social distancing measures significantly impacting work, business operations, and social gatherings, including education. The shift from in-person to remote learning obstructed educational engagement, leading to increased disengagement and school dropouts. Despite efforts to continue education through alternative methods, their effectiveness and reach varied, impacting students differently based on their social circumstances.

Moreover, the pandemic's indirect effects exacerbated challenges for families supporting children's education. Economic downturns led to increased food insecurity and mental health issues, further hampering educational opportunities. The learning environment at home, often shared with other family duties and limited resources, including connectivity and digital devices, added to the strain. The ongoing uncertainty of the pandemic created a stressful and traumatic backdrop that distracted from educational focus and commitment.

The pandemic also stretched the capabilities of education systems and schools, overburdening leaders and administrators already facing the same stressors as students and teachers. This strain reduced their capacity to manage and improve educational programs effectively, impacting routine operations and advancement efforts within schools.

Surveys conducted by UNESCO, UNICEF, and the World Bank highlight significant disparities in educational responses related to the economic status of countries. By the end of September 2020, schools in high-income countries had closed for an average of 27 days, while this number increased to 40 days in middle-income countries, 68 days in lower middle-income countries, and 60 days in low-income countries.

As schools began to reopen, most countries did not have plans to systematically evaluate students' levels of knowledge and skills, and national assessments were generally put on hold. The timing and methods of reopening schools varied widely, both between and within countries. Some nations provided both in-person and remote learning options, allowing students to choose their preferred mode of education, whereas others offered no such choice. The degree of in-person instruction available once schools reopened also varied. While some schools and countries implemented strategies to address learning losses as students returned, this was not a universal practice.

Education is currently undergoing a remarkable transformation, with online learning becoming an integral part of the global educational landscape. In this context, the creation of effective online courses has become a priority for both educational institutions and professionals who wish to provide quality educational content to a diverse audience. However, successfully developing and implementing an online course is not a simple task. It requires careful planning, choosing the right e-learning platform, designing the course, and selecting strategies that meet the needs of participants.

This report aims to document all phases of creating the online course, as well as carrying out its evaluation. It will address the course design and development process, the choice of the e-learning platform, the content structure, the pedagogical strategies implemented, and the way in which the learning assessment was conducted. The results obtained, the participants' perceptions, and the challenges faced throughout the process will be analyzed. The course evaluation will be carried out based on the KirkPatrick model, aiming to guarantee the quality and effectiveness of the online course.

METHODOLOGY

The methodology of an E-Learning course is fundamental to creating an effective and engaging virtual learning environment. In methodological terms for creating the E-Learning course, there were a set of steps that led to the creation of a course that, we believe, is well structured.

E-LEARNING PLATFORM SELECTION

Choosing an E-Learning platform is a crucial moment and must bring together a set of characteristics such as being user-friendly, stable and offering resources for hosting content, managing participants, facilitating communication and the possibility of checking progress. After a discussion between all partners, the decision was made to use Moodle, a popular and open source e-learning platform widely used by educational institutions, companies and organizations. There are several reasons why Moodle was chosen as an e-learning platform:

- Moodle is open source software, which means it is free to use and customize, allowing it to be adapted according to specific needs and without license costs.
- Moodle has an active global community that contributes to improvements and offers support, ensuring it is constantly evolving and updating.
- Moodle is highly customizable and the platform's appearance, functionality and workflow can be changed to meet the needs of the partnership.
- Supports a variety of content types, including text, video, audio, quizzes, discussion forums, which allows you to create diverse resources and activities.
- Offers access control and security features
- Moodle supports several languages, a factor considered critical in this course.
- It allows the promotion of collaborative learning through discussion forums, chats, wikis and other tools that encourage interaction between participants.

Moodle was, therefore, the obvious choice for the e-learning platform, because, in addition to the previous reasons, it was already known to all partners.

Partners were already familiar with the platform, which accelerated adaptation and acceptance of the technology. Furthermore, Moodle's rich features and flexibility allowed us to customize the environment according to specific needs, ensuring an engaging learning experience.

STRATEGIC OPTIONS

When creating this course, the partnership defined a set of strategic options that guided the creation of the online course.

1. Partnerships and specialization

Each module of this online course was developed by the partner who had the knowledge and experience in the specific area. This approach ensured that each module was enriched with the knowledge of experts in the field. Nevertheless, all partners collaborated at all stages, making the course more comprehensive and offering diverse perspectives, enriching the teachers' learning experience.

2. Consistent Structure:

Although the course has a flexible structure that can be adapted, the internal structure of each module remains consistent. This ensures that trainees know what to expect, regardless of the module. This consistency in structure makes it easier for teachers to navigate and understand, promoting a more effective experience.

3. Challenging Activities

The activities proposed in each module were carefully designed to be challenging.

4. Multilingual Support

A distinctive aspect of this course is the availability in several languages, corresponding to the languages of the partners. The inclusion of multiple languages makes the course accessible to an international audience and strengthens intercultural understanding and collaboration. In addition to the platform supporting the multilingual component, all content and activities were translated into English (the partnership's working language) and later into Turkish, Portuguese, Italian and Polish.

5. Training certification mechanisms

Continuous training is a fundamental pillar for improving education. In particular, teacher training plays a critical role in ensuring that educators are up to date with best practices and the latest trends. In this context, certification mechanisms play a vital role, not only validating the effort and dedication of teachers, but also significantly impacting the evolution of their careers.

Certification represents formal recognition of the effort and commitment of educators in pursuit of professional improvement. In addition to validating the successful completion of a training program, it also demonstrates that the teacher has acquired specific skills and knowledge. When we designed a training course, we always had the issue of certification in mind. This issue was somewhat complex as it brought together countries with different educational systems and different procedures. Two distinct forms were identified:

- In Portugal, training must be certified before being implemented. The Scientific Council for Continuous Teacher Training is responsible for various functions and responsibilities with regard to the continuous training of teachers in Portuguese territory. Among them is the approval of continuous training plans proposed by training entities, ensuring that they are aligned with the needs of teachers and the country's educational policies. In this sense, a rather lengthy procedure was followed in order to have this training recognized for the purposes set out in paragraph 1 of article 8 and article 9 of the Legal Regime for Continuing Teacher Training. After long months of waiting, the training was officially accredited in Portugal, leading to a teaching career.

- In the case of other partnership countries, the process is slightly different. After completing the training, the certificate of completion and supporting documents are sent to the entities that carry out your accreditation. This process is done by each teacher. In this sense, all teachers who complete the training will be issued a certificate and documents will be made available so that, from now on, they can apply for certification.

This is considered essential, not only to motivate teachers, but also to highlight the seriousness and value attributed to continuous training. Obtaining a certification in a teacher training course increases educators' self-confidence and motivation.

COURSE DESIGN

This phase involved structuring the course content in a logical and coherent manner. The material was divided into modules, created with interactive activities as well as relevant assessments:

MODULE 0 – TRAINING COURSE PRESENTATION

This module plays a key role in introducing an online course. It was intended to provide teachers with an overview of the course and establish clear expectations from the beginning. The following guidelines were defined:

- Create a welcome message:
- Provide an overview of the course, explaining its structure, content and schedule
- Describe the learning objectives that teachers should achieve upon completing the course
- Explain the methodology that will be used in the course.
- Present the forms of evaluation, including evaluation criteria and delivery dates.
- Present the tools and resources that teachers will use, such as the e-learning platform, supporting materials, relevant links and any other additional resources.
- Include a Questions section to address common teacher questions and provide answers to questions that may arise.
- Encourage teacher interaction in this module.

This module serves as an essential starting point to guide teachers and establish a solid foundation for the online course, ensuring everyone has a clear understanding of the objectives, methods, and expectations.

MODULE 1. E-TOOLS

In an era of technology reshaping the education landscape, we recognise e-tools' impact on collaboration, production, and communication within K12 education. In this module, we will discuss several e-tools, seamlessly introducing the topic of Artificial Intelligence (AI) into each theme.

In the opening unit, by understanding collaborative e-tools, we will discuss a culture of shared learning within the classroom and discover how these tools can amplify collaboration, transforming your classroom into an innovative teamwork environment.

In the 2nd unit, we will approach content creation and production tools and how e-tools can boost creativity and improve the quality of educational resources. We will also explore how AI can enhance this process, namely, in what educational content is concerned.

In the 3rd unit, we will consider communication tools and discuss the potential of e-tools in gathering insights and communicating in digital learning environments.

Our main intention is to help you transform your classrooms into engaging and collaborative learning spaces and help you know emerging trends in digital technologies and artificial intelligence.

Learning Outcomes

Unit 1:

1. Define the role and importance of collaboration in educational contexts.
2. Explore and evaluate collaborative e-tools.
3. Understand how AI-powered tools can improve collaborative projects.

Unit 2:

1. Identify and use e-tools for content creation and production.
2. Develop skills in creating engaging educational content.
3. Recognise the role of AI in enhancing creativity in content creation.

Unit 3:

1. Identify effective communication strategies using e-tools.
2. Discuss communication platforms to facilitate better teacher-student and teacher-teacher interactions.
3. Stay informed about emerging trends in e-tools and digital technologies.

MODULE 2. E-TOOLS

E-moderating is an iterative process, so beginning your journey with an awareness of the purpose of e-activities and using e-moderating techniques that experts have developed will enable you to build your confidence and experience in teaching online or using technology to enhance the presential teaching.

This module is for anyone looking to take the first steps in e-moderating in educational environments. The module is divided into three units and includes some self-directed tasks and activities that should be completed collaboratively through the discussion forum on this course platform.

In the 1st unit, we will look at the online learning environment and the available opportunities that could enhance the student learning experience. We will also look at e-moderation and the skills and competencies of a good moderator.

In the 2nd unit, we will look at Gilly Salmon's Five Stage Model for e-moderation, which focuses on peer-to-peer interaction facilitated by e-moderation. We will look at ways the moderator can support and challenge learners at each stage of the model so that they develop the confidence to communicate and learn in a peer-supported environment. We will also look at communicating online and techniques that can be used to support a positive learning environment.

In the 3rd unit, we will look at communication and netiquette, and we will examine the differences between deep and surface learning and some strategies for delivering and moderating e-activities through inclusive practices in a positive learning environment.

Learning Outcomes

Unit 1:

1. Understand the role of a good e-moderator.
2. Describe the skills and responsibilities of an e-moderator.
3. Evaluate your level of confidence as an e-moderator.

Unit 2:

1. Describe Gilly Salmon's Five Stage Model.
2. Describe e-moderation strategies that can be used at each stage of the model.
3. Describe ways the e-moderator can create a positive learning environment.

Unit 3:

1. Understand how to promote communication and netiquette in learning environments.
2. Describe ways to make e-activities accessible.
3. Describe the differences between deep and surface learning.
4. Recognise the principles of effective formative feedback practice.

MODULE 3. E-ASSESSMENT

Learning assessment is a critical aspect in an online environment. It is important to be aware of the implications of its implementation, considering not only learning products but also the entire learning development process in terms of knowledge, competencies, skills and values.

This module is aimed at education professionals involved in online education and training that want to develop solid foundations, based on recent research and good practices, to enhance the E-assessment practice.

Learning outcomes

By the end of this module, participants should be able to:

- identify and characterise relevant principles of E-assessment;
- design effective E-assessment activities that align with the intended learning outcomes;
- explore methods for providing timely and constructive online feedback;

Unit 1: E-assessment essentials

Unit 2: Designing E-assessment

Unit 3: Planning feedback dynamics

MODULE 4. APPROACHES IN PEDAGOGICAL PRACTICE

In this last module, teachers are expected to create and implement with their students an activity plan that incorporates digital tools and/or online moderation and/or online assessment strategies. It should also include a reflection on challenges and opportunities in applying online teaching techniques in the classroom.

An editable template is available, which can be adapted.

ELEARNING COURSE STRUCTURE

According to the methodology presented in the previous section, Moodle was installed and configured and courses were created in each language of the partnership. Access was through the project website (<https://3e-erasmus.eu>).

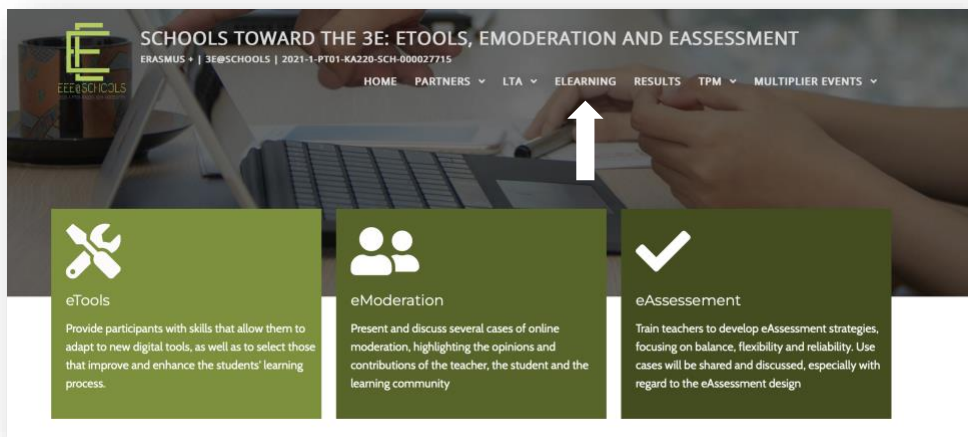


Figure 1- Link to access the course from the project website

After clicking on the menu, the user is taken to a space with Moodle, where the different versions of the course are shown, with the name of the training in the language of each country. In addition to the platform assuming the language in all dimensions, all content and activities presented, as already mentioned, were translated. The following image shows the different versions available:

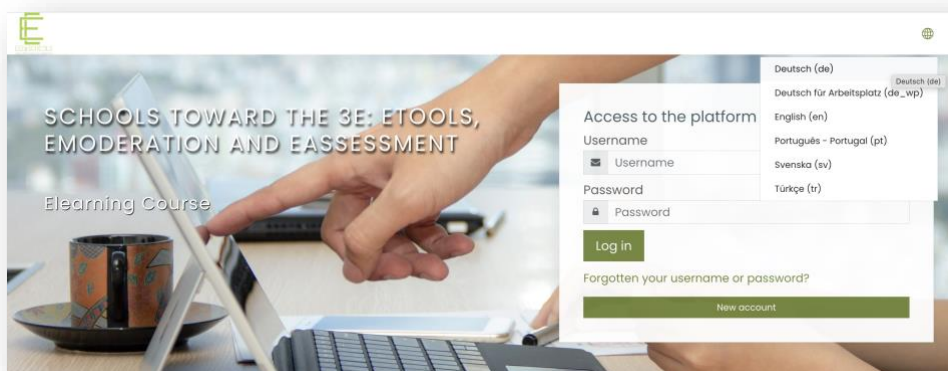


Figure 2- Course Login page

After this registration process, the access to all courses were free. On the next image we can see the different languages available:

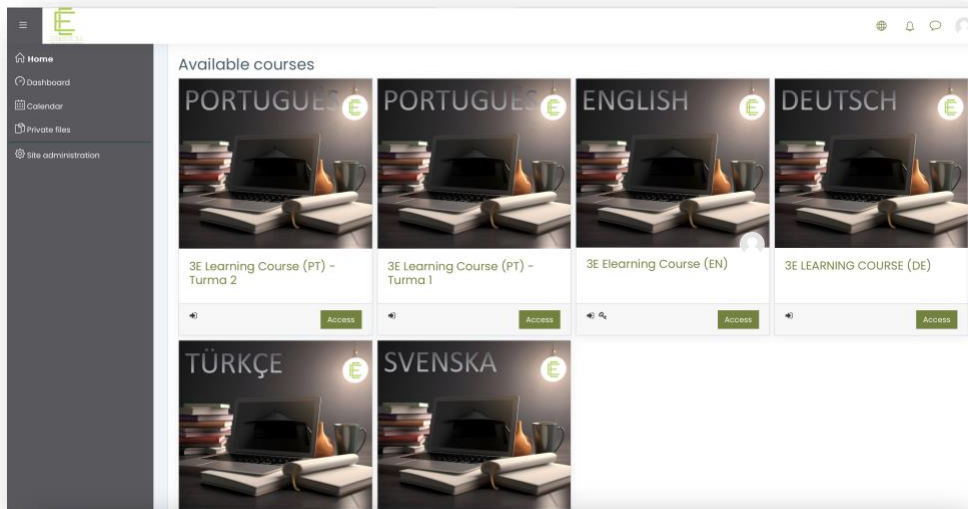


Figure 3- Link to access the course from the project website

In the case of Portugal, two identical courses were created, one for each of the groups of teachers who carried out the training. This option involves the limits required by current legislation which, in the case of accredited training, limits the number of participants.

Once on the platform, and in accordance with what was defined in the methodology, teachers had access to the course modules, as illustrated in the following image:

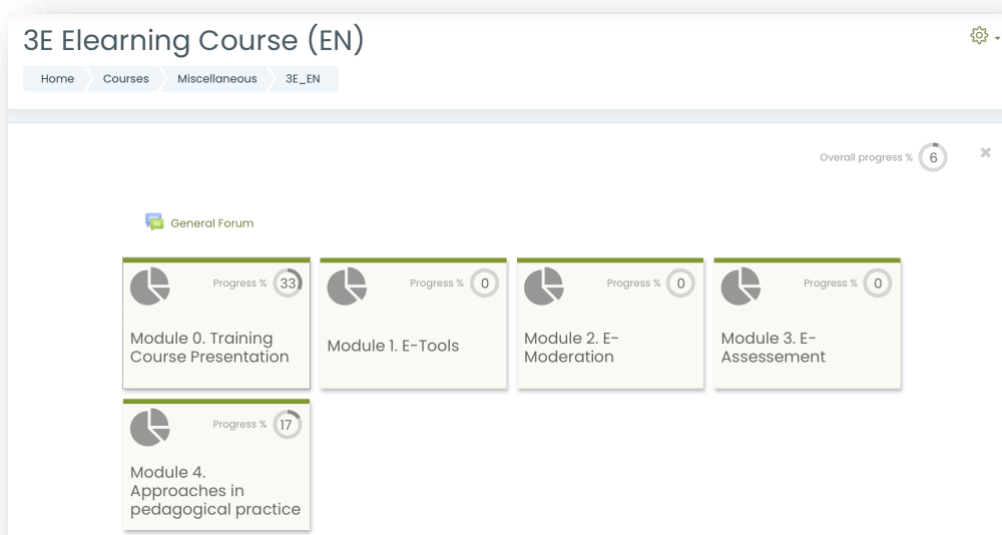


Figure 4- Modules available for each course on the project's Moodle platform

A forum was also created for general questions regarding the logistic of the course. The forums created for announcements and for asking questions. Associated with each module is a progress

indicator. It is considered that in an eLearning course it is a crucial feature that can improve the learning experience and results. Providing teachers with a clear, visual representation of their course progress, may helps them stay motivated and engaged. Also, the progress indicators help teachers and trainers to monitor engagement and performance.

MODULE 0 – TRAINING COURSE PRESENTATION

This introductory module established the context and structure of the course. The main objective is to give participants an overview of the training program, understand the educational objectives, the relevance of each subsequent module, as well as the evaluation criteria. Full details of resources and methodological approaches were provided to ensure a comprehensive understanding of the training provided.

In this module, participants had access to the following options:



Figure 5- Structure of Module 0

With the “Presentation and practical disposition of the Training” option, participants had access to a “training book” as explained in the following image:



Figure 6- Structure of the book “Presentation and practical disposition of the Training”

This book serves as a guide for the eLearning course. It is structured into several key sections:

1. Training Framework: Highlights the need for digital proficiency in teaching, especially in light of the pandemic, and aims to integrate digital tools, moderation, and assessment strategies into teaching practices.

2. Objectives: Focuses on developing skills to select and adapt digital tools, understanding the principles of online moderation, creating inclusive and flexible online assessments, and integrating these approaches into teaching.

3. Topics Addressed: Covers four main modules:

- E-Tools: Tools for collaboration, content production, and communication.
- E-Moderation: Principles and application of e-moderation.
- E-Assessment: Essentials of e-assessment, designing assessments, and planning feedback.
- Approaches in Pedagogical Practice: Developing activity plans that incorporate digital tools and strategies from previous modules.

4. Methodology: Each module includes a structured presentation of contents, resources, and assessment activities. Module 4 focus on creating and implementing an activity plan with students.

5. Evaluation: Includes questionnaires, activities for each module and a final work submission involving planning and evaluating an activity with participants.

6. Schedule: Suggests a timeline for module completion but allowing participants to progress at their own pace.

7. Certification: Certification is issued automatically upon completion of all activities and evaluations within the course.

MODULE 1. E-TOOLS

The image below illustrates the structure of this module:

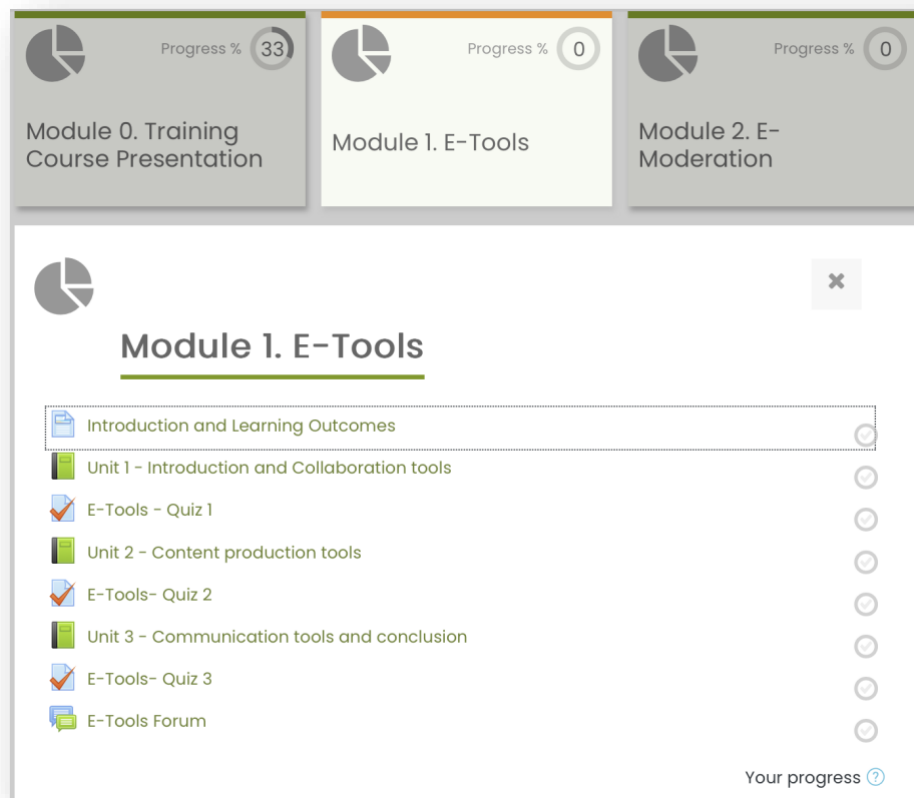


Figure 7- Module 1 - Structure

The “Introduction and Learning Outcomes” section has the goal of outlining the objectives and expected achievements of the module. It provides a roadmap for teachers, detailing what skills and knowledge they will gain upon completion.

This module has three units and after each unit, there is a quiz with 4 questions designed to assess the teachers' understanding of the material covered in that unit. These quizzes serve as checkpoints to reinforce learning and provide feedback to the participants. These components will be on the following modules (Module 2 and Module 3).

The “E-Tools Forum” is for some activities and discussions, allowing participants to interact, share experiences, ask questions, and engage in collaborative learning.

In detail, each unit covers:

Unit 1 – Introduction and Collaboration tools

1. Welcome and Course Overview
 1. Introduction to the course objectives and structure.
 2. Brief overview of the importance of e-tools in K-12 education.
2. Foundations of Collaboration
 1. Understanding the role of collaboration in education.
 2. Introducing e-tools that foster collaboration.
3. AI in Collaboration
 1. Discussing how AI can enhance collaborative strategies.
 2. Examples of AI-powered collaborative tools.

Unit 2 – Content production tools

1. Introduction to Production Tools
 1. Exploring educational content creation and production.
 2. Examples of experiences with creative platforms.
2. AI in Production: Enhancing Creativity
 1. Discussing AI's role in enhancing creativity.
 2. Showcasing AI-powered tools for content creation.
 3. A critical approach to the integration of AI into teachers' practices.

Unit 3 – Communication tools and conclusion

1. Communication in the Digital Age
 1. Communication by teachers using e-tools.
 2. Communication platforms and their philosophical implications.
2. Future Trends and Continuous Learning

MODULE 2. E-TOOLS

The following image illustrates the structure of this module:

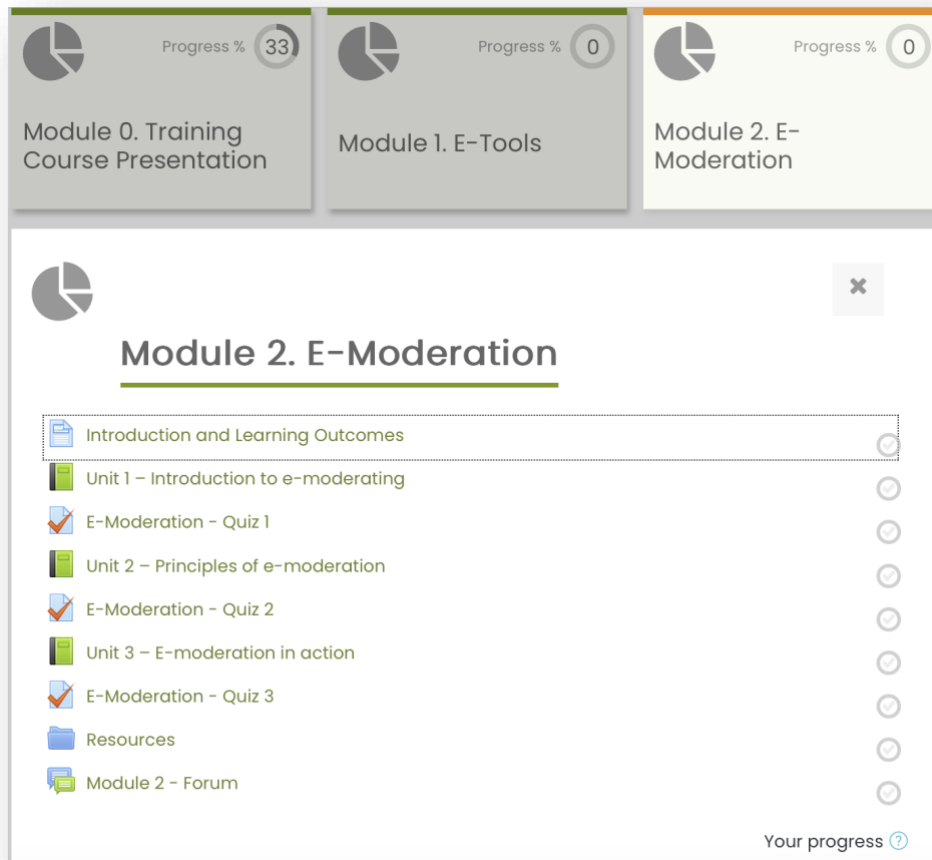


Figure 8- Module 2 - Structure

In detail this module will approach:

Unit 1 – Introduction to e-moderating

1. E-activity: Who am I?
2. What is e-moderating?
3. The role of the e-moderator
4. Top 10 skills of an e-moderator
5. E-moderator competencies

Unit 2 – Principles of e-moderation

1. What is e-moderation?

2. Synchronous e-moderation
3. Asynchronous e-moderation (Five Stage Model)
 1. Stage 1 - Access and motivation
 2. Stage 2 - Online socialisation
 3. Stage 3 - Information exchange
 4. Stage 4 - Knowledge construction
 5. Stage 5 - Development

Unit 3 – E-moderating in action

1. Communication and netiquette
2. The positive learning environment
3. Putting it into practice

MODULE 3. E-ASSESSMENT

The following image shows the structure of this module:

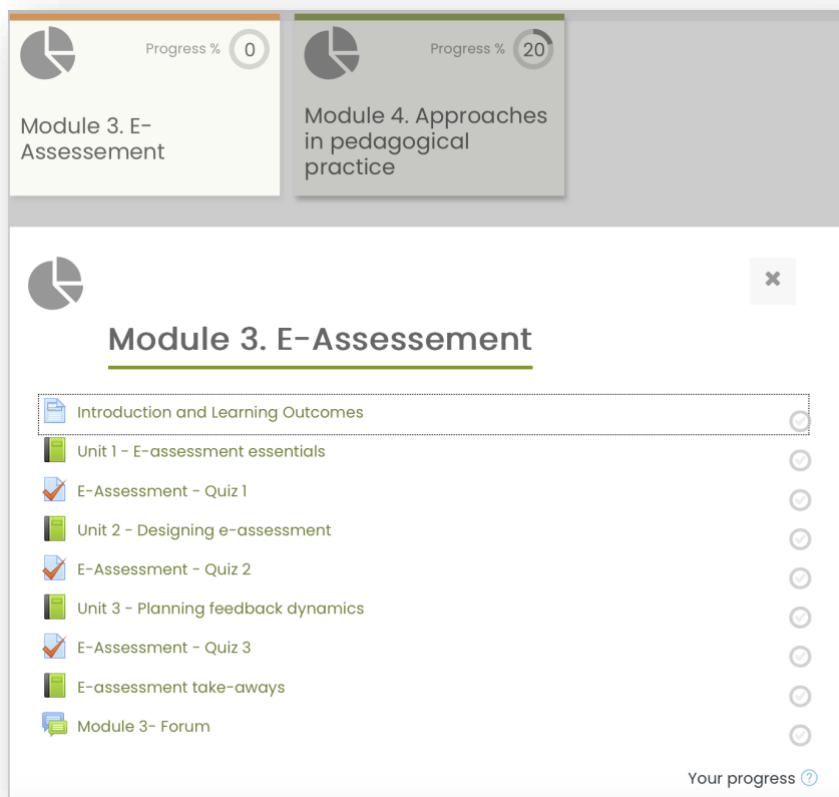


Figure 9- Module 3 - Structure

In detail this module will approach:

Unit 1 - E-assessment essentials

1. Approaches to (e-)assessment
2. Authentic (e-)assessment
3. Transparent (e-)assessment
4. Activity
5. Resources

Unit 2 - Designing e-assessment

1. Diverse learning types
2. Peer e-assessment
3. E-assessment Resources
4. Activity
5. Resources

Unit 3 - Planning feedback dynamics

1. Defining feedback
2. Formative and summative feedback
3. Peer feedback
4. Activity
5. Resources

MODULE 4. APPROACHES IN PEDAGOGICAL PRACTICE

In the last module, a flexible template was presented for lesson plan that meet the needs of the current educational environment. Participants were challenged to prepare and apply the created lesson plans in pedagogical contexts. This final stage of the course addressed the practical applicability of the acquired skills, emphasizing the connection between theory and practice in the educational field.

The following image illustrates the structure of the module, as defined in the methodology section.

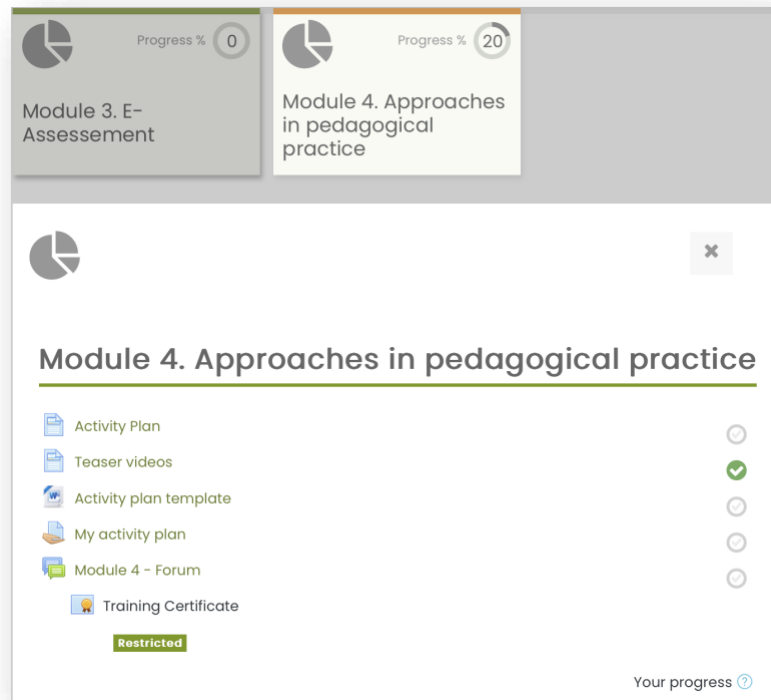


Figure 10- Module 4 - Structure

As this is the final module, it is also important to highlight the assessment strategy for this module. Participants were challenged to create a lesson involving one or more contents from the previously covered modules and apply them to their educational practice – whether in a classroom context or in other pedagogical contexts. A template was suggested for the submission of the lesson plan, but teachers were given the freedom to adapt it as needed. However, recognizing the diversity of contexts and teaching styles, teachers had the flexibility to adjust and modify the template to better meet their specific needs and those of their students.

As an indirect result of other project activities, a YouTube channel was created featuring short videos showcasing examples of practices implemented by teachers directly involved in the project. In this module, these videos have been made available to serve as inspiration for participants. These videos provide practical insights and real-life examples of successful teaching strategies, demonstrating how theoretical concepts can be effectively applied in classroom settings. By watching these videos, participants can gain new ideas, understand different approaches, and feel more confident in integrating similar practices into their own teaching:

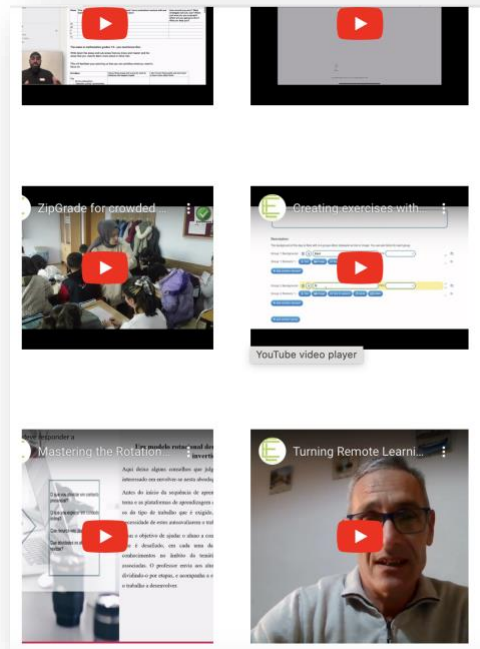


Figure 11- Videos showcasing examples of practices implemented by teachers directly involved in the project

At the end of the course, and despite other forms of certification and validation of the skills already mentioned in the methodology section being considered, a certificate was issued to all participants, as shown in the following image:



Figure 12- Example of a course completion certificate

ELEARNING COURSE EVALUATION

Evaluation is a critical component of this eLearning course, designed to guarantee that the objectives and learning outcomes are met. This section outlines the various methods and tools used to assess both the participants' progress and the overall effectiveness of the course. Through a combination of quizzes, assignments, and interactive activities, we aim to provide comprehensive feedback that supports continuous improvement and learning. Additionally, the evaluation process includes opportunities for participants to reflect on their learning experiences and provide feedback on the course content and delivery. This dual approach not only helps in measuring the achievement of educational goals but also fosters a supportive learning environment where participants can thrive and develop their skills.

QUANTITATIVE EVALUATION

A total of 215 teachers registered in the eLearning course platform (Moodle). The following chart shows how the participants were distributed across different countries:

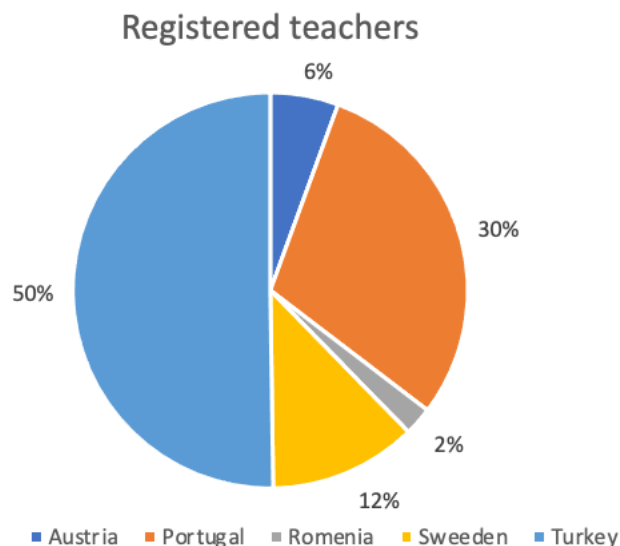


Figure 13- Distribution of course participants by country

The eLearning course includes a diverse group of registered teachers, with 6% from Austria, 30% from Portugal, 2% from Romania, 12% from Sweden, and 50% from Turkey. With the exception of participants from Romania, all participants are from the partner countries. However, although the Romanian participants are enrolled, it was found that they did not complete any activities and therefore will not be considered. Regarding the schools involved in each country, it was

observed that a significant number of schools outside the partnership were included, as a result of the promotional efforts carried out by the partners.

The following chart shows the average ratings of the evaluation activities of Elearning Course. As already mentioned, only modules Module 1. E-Tools, Module 2. E-Moderation and Module 3. E-Assessment included a quantitative assessment activity, in the form of a quizzes with multiple choice questions.

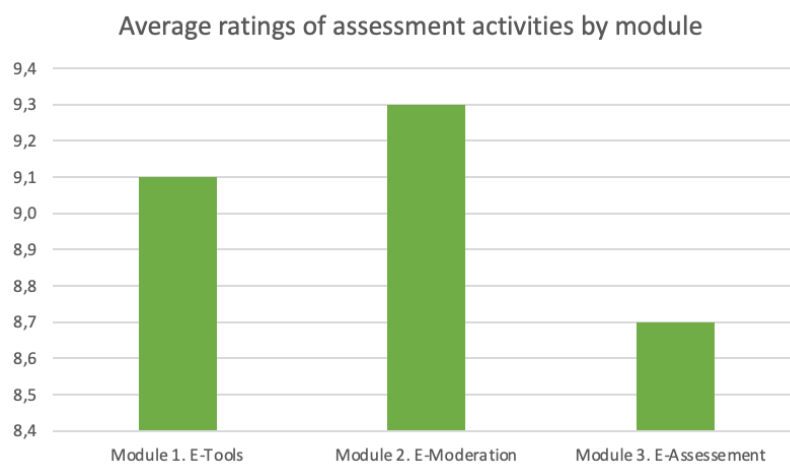


Figure 14- Average ratings of assessment activities by module

The overall ratings for all three modules are quite high, ranging from 8.7 to 9.3, reflecting a general good results of assessment activities. Module 2 (E-Moderation) stands out with the highest average rating (9.3), highlighting its effectiveness and positive reception. Module 3 (E-Assessment), while still well-rated, shows the lowest average rating (8.7), suggesting potential areas for improvement.

As already mentioned, Modules 1, 2 and 3 included three questionnaires designed to assess participants' understanding and proficiency with the course content. Ratings range from 0 to 10.

It was considered pertinent to carry out a comparative analysis between different countries and modules. The following chart illustrates the results obtained:

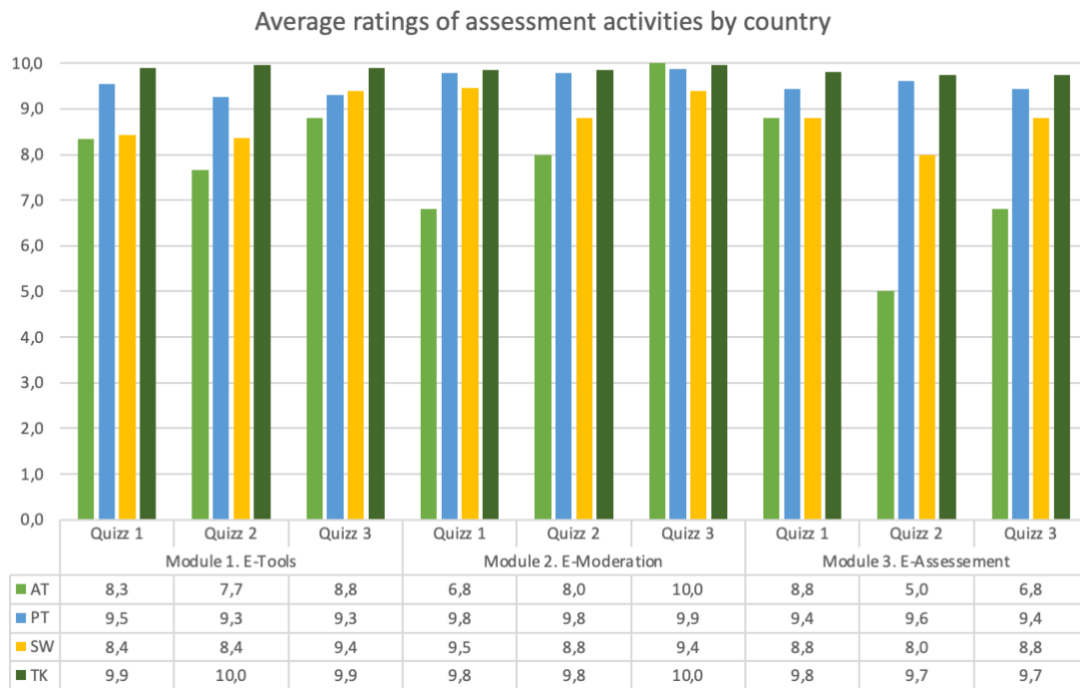


Figure 15– Average ratings of assessment activities by country

Austria shows varied performance across the modules, with significant challenges particularly evident in Module 3. The ratings for Module 3's quizzes, especially Quiz 2 (5.0), are lower than those for other modules. This indicates that Austrian participants struggle more with the E-Assessment content compared to E-Tools and E-Moderation. To address this, targeted support and additional resources should be provided to help improve understanding and performance in E-Assessment. This could include more detailed explanations, practical examples, and perhaps supplementary workshops or one-on-one tutoring sessions to ensure that Austrian participants can better grasp the concepts and applications of E-Assessment.

Portugal consistently demonstrates high proficiency across all modules, with ratings ranging from 9.3 to 9.9. This indicates that the participants from Portugal are effectively learning and applying the course content, showing strong alignment with the assessment activities. The high and stable ratings suggest that the current instructional strategies and materials are highly effective for Portuguese participants. Maintaining these high standards will involve continuing to use the same successful methodologies and potentially sharing these best practices with other countries to help improve their outcomes.

Sweden generally performs well, with ratings ranging from 8.0 to 9.5. While the overall performance is positive, there are minor areas for improvement suggested by slight dips in certain quizzes, such as Quiz 2 in Module 3 (8.0). These fluctuations indicate that while Swedish participants are generally proficient, there may be specific aspects of the material that are less clear or more challenging. Addressing these could involve refining the instructional materials for those specific areas, providing additional practice opportunities, and seeking feedback from participants to better understand where they encounter difficulties.

Turkey achieves the highest and most consistent scores across all modules and quizzes, with ratings near or at perfect scores (9.7 to 10.0). This reflects exceptional proficiency and effective learning among Turkish participants. The consistently high ratings indicate that the assessment strategies employed are highly effective and well-received, making Turkey's approach a potential model for best practices. Sharing the successful techniques and methodologies used in Turkey with other countries could help elevate overall performance and satisfaction in the eLearning course.

The deviation of the classifications of assessment activities by country and module in relation to the average of the eLearning course was also considered important. The result of this analysis is shown in the following graph:

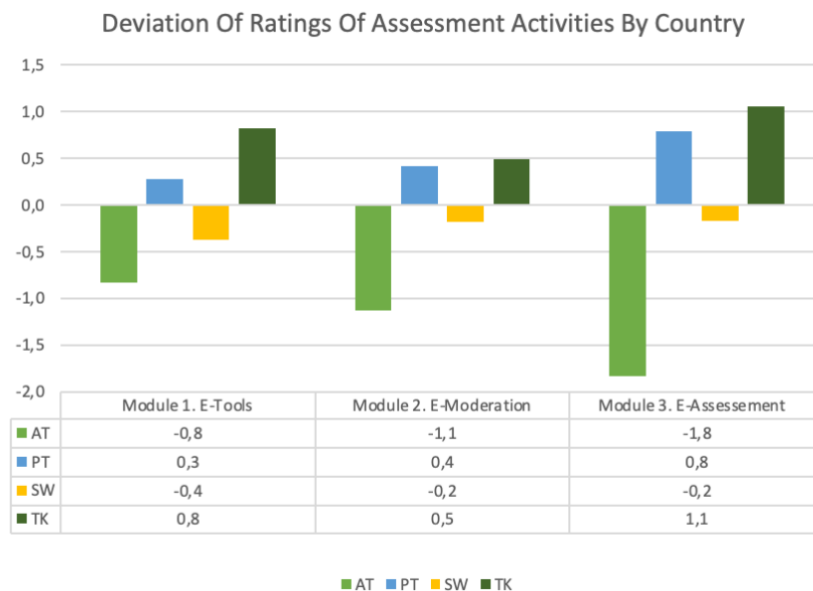


Figure 16- Deviation of Ratings Of Assessment Activities By Country - Elearning Course

Austria consistently shows negative deviations across all modules, with the most significant deviation in Module 3. E-Assessment (-1.8).

Portugal shows positive deviations in all modules, with the highest in Module 3. E-Assessment (0.8).

Sweden generally has slight negative deviations, with the highest negative deviation in Module 1. E-Tools (-0.4).

Turkey consistently shows positive deviations, with the highest in Module 3. E-Assessment (1.1).

KIRKPATRICK EVALUATION MODEL

The Kirkpatrick Model, developed by Donald L. Kirkpatrick in the 1950s, is one of the most recognized and used frameworks for evaluating the effectiveness of training programs. This model proposes a four-level approach to evaluating the impact of a training program, considering different aspects of the effect of training on participants and the organization as a whole.

Reaction Level

In this initial stage, the evaluation focuses on the participants' reaction to the training. This includes gathering opinions about participant satisfaction, the quality of the training, the relevance of the content and the effectiveness of the trainer (Kirkpatrick, 1994).

Learning Level

At this second level, the evaluation aims to measure how much participants learned during training. This involves evaluating the increase in knowledge, skills and abilities acquired. Assessment methods may include tests, practical assessments, simulations or other activities that demonstrate the acquisition of new knowledge (Kirkpatrick & Kirkpatrick, 2006).

Behavioral Level

The third level focuses on transferring learning to the work environment. It is assessed whether participants are applying the skills and knowledge acquired during training in their daily activities. This may involve direct observation, feedback from supervisors or colleagues, and analysis of related performance indicators (Alliger, Tannenbaum, Bennett Jr, Traver, & Shotland, 1997).

Outcome Level

The fourth level focuses on the broader outcomes of training for the organization. The impact of training on organizational objectives is evaluated, such as increasing productivity, reducing errors, improving the quality of the product or service and other measurable results. Data collection at this level may involve analysis of key performance indicators (KPIs), comparison of results before and after training, and cost-benefit analysis (Kirkpatrick, 1998).

The following image, by Kirkpatrick himself, illustrates the four levels specified above:

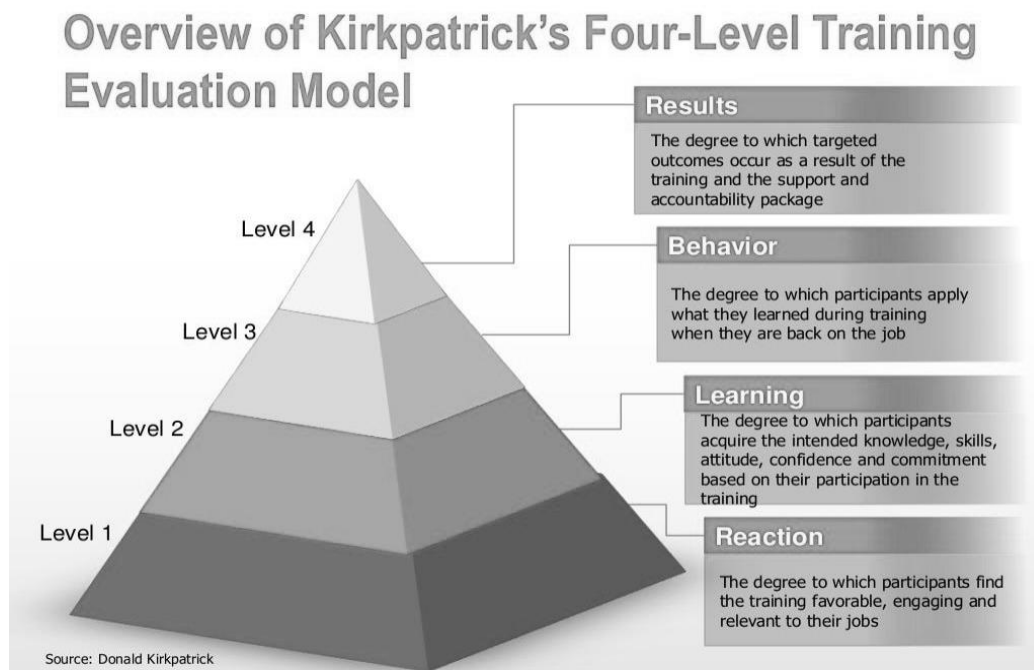


Figure 17- Overview of the Kirkpatrick Model and foundational principles¹

It is essential to highlight that each level of the model is not necessarily a sequential step, but rather a holistic assessment approach that can be adapted to the specific context of the training program. The Kirkpatrick Model offers a comprehensive framework for evaluating the impact of training across multiple aspects, enabling organizations to better understand the effectiveness of their investments in people development.

¹ Imagem retirada de <https://kloudlearn.medium.com/overview-of-the-kirkpatrick-model-and-foundational-principles-1d9a349a9ae3>

TRAINING EVALUATION - THE KIRKPATRICK MODEL

Bearing in mind the 4 levels foreseen in Kirkpatrick's model, Suraj (2023) proposes a set of questions, based essentially on the participants' perception:

Parameters	Questions
Reaction	1. The content of the training was relevant and useful for my teaching practice. 2. The online materials and resources provided were appropriate and facilitated learning. 3. The online platform used was effective and easy to navigate. 4. The training met my expectations. 5. I would recommend this training to other teachers.
Learning	6. I have developed new knowledge and competences that are relevant to my teaching practice. 7. I feel more confident about the topics covered after the training. 8. The training provided sufficient opportunities to work on the content learnt. 9. The content and methods used in the training need to be improved to further facilitate learning.
Behavior	10. After the training, I expect to apply new knowledge and competences in my teaching practice. 11. I have noticed positive changes in my teaching approach and interaction with students. 12. I would benefit from more support to apply the knowledge developed in my teaching practice.
Results	13. The training will contribute to improve the students' learning and performance after applying the practices learnt. 14. The training will contribute to the educational objectives of my school/group. 15. The training will have significant positive impact on my teaching activity. 16. I expect to make lasting changes in my teaching practice as a result of this training.

Figure 18- Table with the questions used to evaluate the training according with Kirkpatrick's model

The evaluation of the training was carried through a questionnaire with the previous 16 questions.

A Likert scale was used for each question from 1 to 5, where 1 means “completely disagree” and 5 means “completely agree”.

This questionnaire was optional and 74 responses were recorded from the total of 215 teachers registered on the platform (approximately 30%). The results of this process are presented in the following sections, organized by each question proposed by Suraj (2023).

THE CONTENT OF THE TRAINING WAS RELEVANT AND USEFUL FOR MY TEACHING PRACTICE - REACTION

This chart indicates that the majority of teachers found the training content to be both relevant and useful for their teaching practice. A significant portion of respondents rated their agreement with this statement highly, suggesting that the training addressed pertinent issues and provided practical insights that could be readily applied in their classrooms.

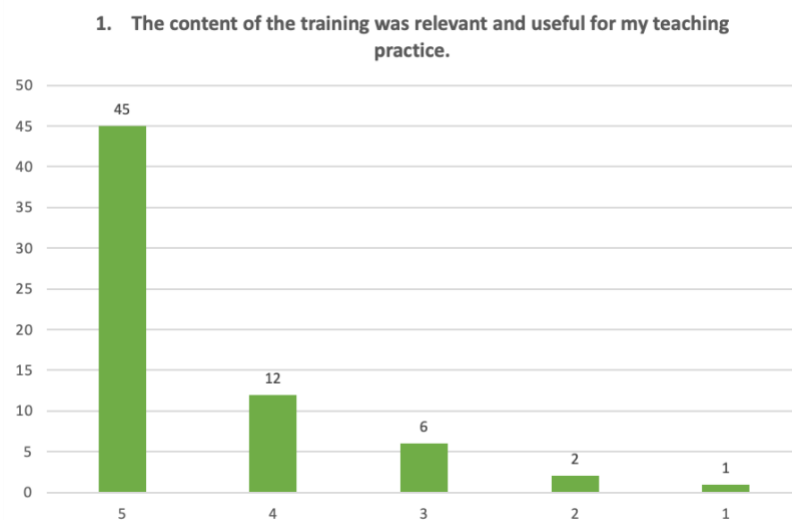


Figure 19– Reaction Level – The content of the training was relevant and useful for my teaching practice

THE ONLINE MATERIALS AND RESOURCES PROVIDED WERE APPROPRIATE AND FACILITATED LEARNING - REACTION

The responses in this chart reveal that most teachers felt the online materials and resources were suitable and effective in facilitating their learning. The high level of agreement indicates that the resources were likely well-designed, accessible, and aligned with the training

objectives, enhancing the overall learning experience.

2. The online materials and resources provided were appropriate and facilitated learning.

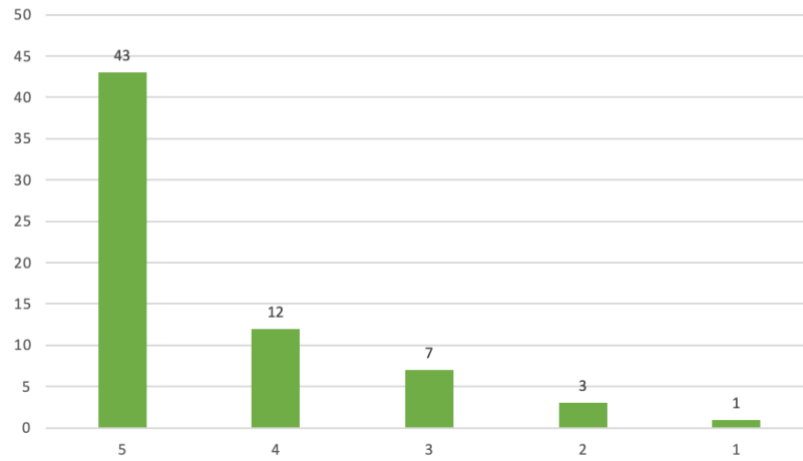


Figure 20– Reaction Level – The online materials and resources provided were appropriate and facilitated learning.

THE ONLINE PLATFORM USED WAS EFFECTIVE AND EASY TO NAVIGATE - REACTION

Teachers' responses to this statement show that the online platform used for the training was largely deemed effective and user-friendly. The positive feedback suggests that the platform's interface was intuitive, which minimized technical difficulties and allowed participants to focus on the training content rather than navigation issues.

3. The online platform used was effective and easy to navigate.

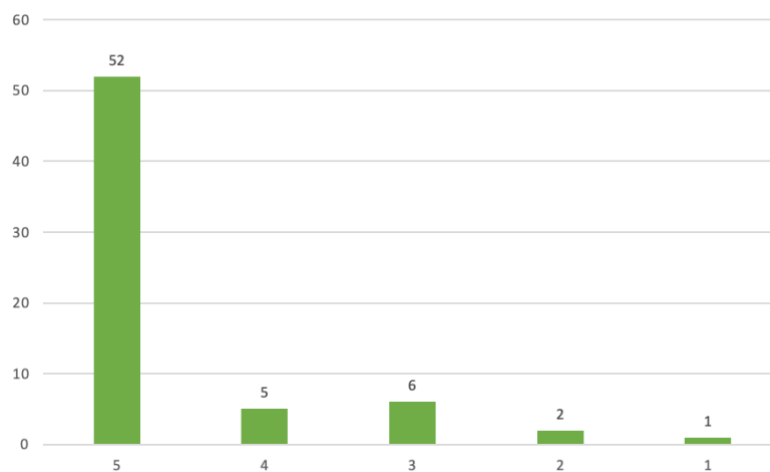


Figure 21– Reaction Level – The online platform used was effective and easy to navigate.

THE TRAINING MET MY EXPECTATIONS - REACTION

This chart illustrates that the majority of teachers felt the training met their expectations. The alignment between what the participants anticipated and what was delivered speaks to the quality and relevance of the training program, which successfully fulfilled the participants' professional development needs.



Figure 22– Reaction Level – The training met my expectations.

I WOULD RECOMMEND THIS TRAINING TO OTHER TEACHERS - REACTION

A high level of agreement in this chart indicates that many teachers would recommend this training to their colleagues. This suggests that participants found significant value in the training, perceiving it as beneficial enough to advocate for its broader dissemination among their peers.

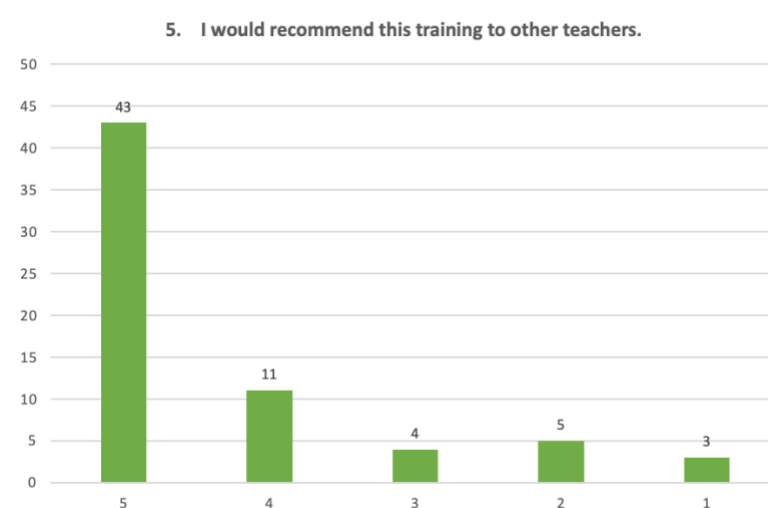


Figure 23– Reaction Level – I would recommend this training to other teachers.

I HAVE DEVELOPED NEW KNOWLEDGE AND COMPETENCES THAT ARE RELEVANT TO MY TEACHING PRACTICE - LEARNING

This chart shows that most teachers felt they gained new knowledge and competences relevant to their teaching practice. This positive feedback underscores the training's effectiveness in enhancing teachers' professional skills and providing them with new insights applicable to their classroom activities.



Figure 24– Learning Level – I have developed new knowledge and competences that are relevant to my teaching practice..

I FEEL MORE CONFIDENT ABOUT THE TOPICS COVERED AFTER THE TRAINING. - LEARNING

The responses indicate that teachers felt more confident about the topics covered in the training. Increased confidence suggests that the training not only imparted knowledge but also empowered teachers to feel more assured in their ability to apply what they learned.

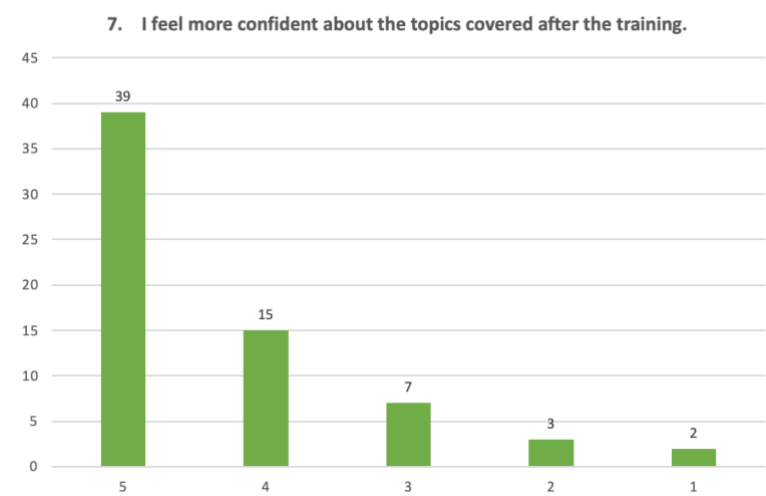


Figure 25– Learning Level – I feel more confident about the topics covered after the training.

THE TRAINING PROVIDED SUFFICIENT OPPORTUNITIES TO WORK ON THE CONTENT LEARNT - LEARNING

According to this chart, most teachers agreed that the training provided ample opportunities to work on the content learned. This implies that the training included practical activities or discussions that allowed participants to engage actively with the material, reinforcing their learning.

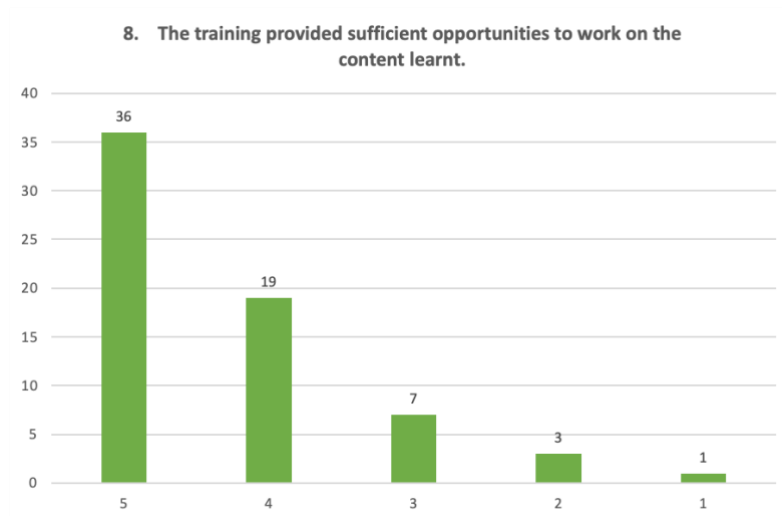


Figure 26– Learning Level – The training provided sufficient opportunities to work on the content learnt.

THE CONTENT AND METHODS USED IN THE TRAINING NEED TO BE IMPROVED TO FURTHER FACILITATE LEARNING - LEARNING

Despite the overall positive feedback, this chart highlights that some teachers felt the content and methods could be improved. This constructive criticism suggests areas for enhancement, such as incorporating more interactive elements or diversifying teaching methodologies to better support different learning styles.

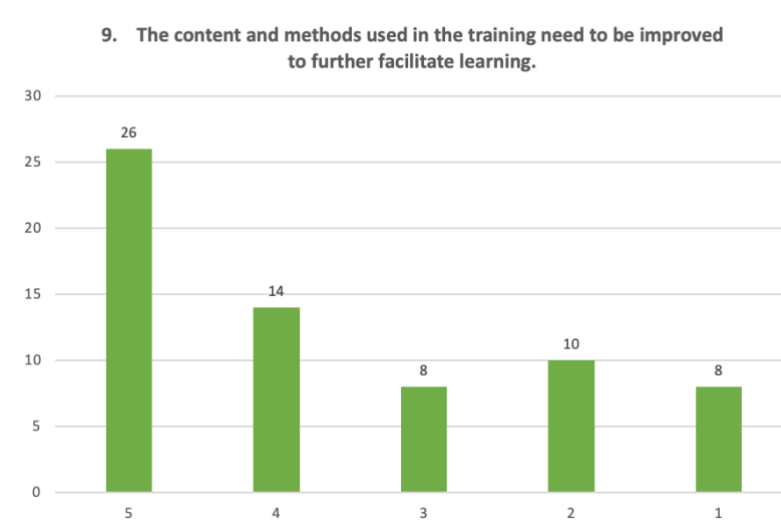


Figure 27– Learning Level – The content and methods used in the training need to be improved to further facilitate learning

AFTER THE TRAINING, I EXPECT TO APPLY NEW KNOWLEDGE AND COMPETENCES IN MY TEACHING PRACTICE - BEHAVIOR

This chart reflects that teachers are optimistic about applying the new knowledge and competences gained from the training in their teaching practice. This indicates a strong intention to translate what they have learned into practical improvements in their classrooms.



Figure 28– Behavior Level – After the training, I expect to apply new knowledge and competences in my teaching practice.

I HAVE NOTICED POSITIVE CHANGES IN MY TEACHING APPROACH AND INTERACTION WITH STUDENTS - BEHAVIOR

Teachers reported noticing positive changes in their teaching approach and interactions with students following the training. This suggests that the training had a tangible impact on their teaching behaviors, potentially leading to more effective and engaging instructional strategies.

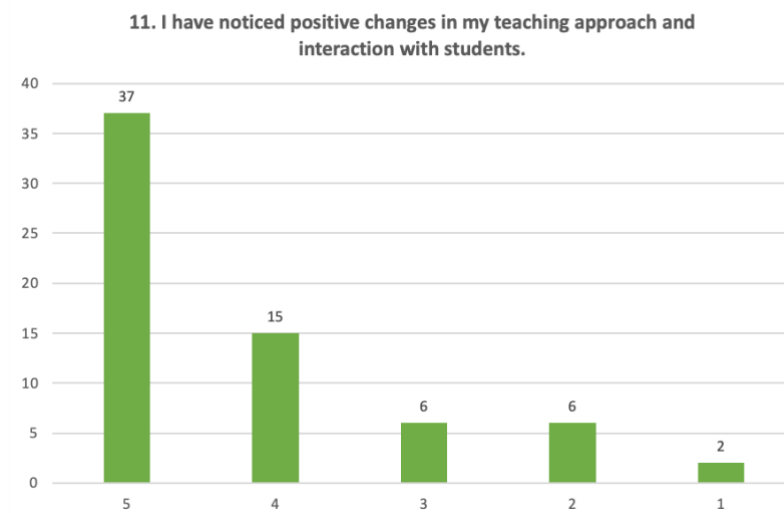


Figure 29– Behavior Level – I have noticed positive changes in my teaching approach and interaction with students..

I WOULD BENEFIT FROM MORE SUPPORT TO APPLY THE KNOWLEDGE DEVELOPED IN MY TEACHING PRACTICE - BEHAVIOR

This chart indicates that while teachers are willing to apply their new knowledge, they also recognize the need for additional support. This could involve follow-up sessions, access to resources, or mentorship programs to help them fully integrate new strategies into their teaching.

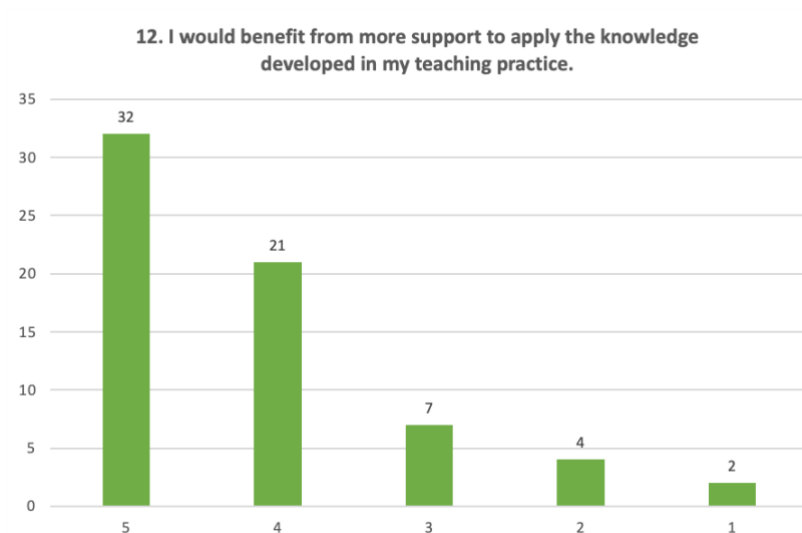


Figure 30– Behavior Level – I would benefit from more support to apply the knowledge developed in my teaching practice

THE TRAINING WILL CONTRIBUTE TO IMPROVE THE STUDENTS' LEARNING AND PERFORMANCE AFTER APPLYING THE PRACTICES LEARNT - RESULTS

Teachers believe that the training will positively impact their students' learning and performance. This optimistic outlook suggests that the training provided strategies and knowledge that are directly relevant to enhancing student outcomes.

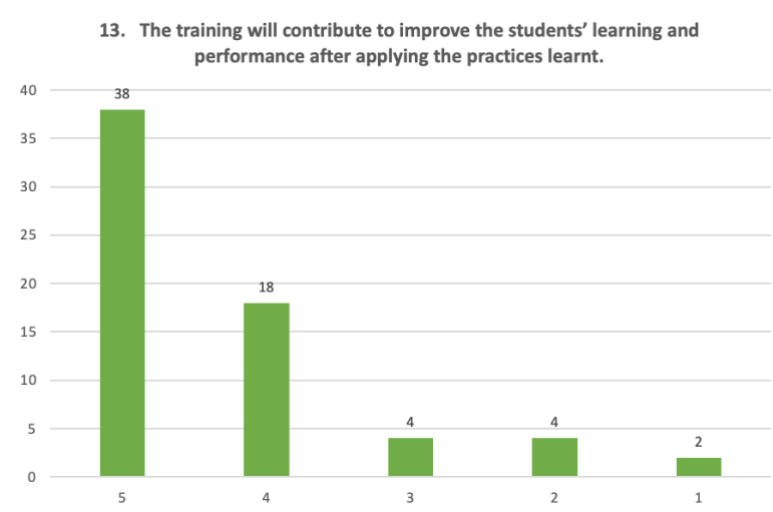


Figure 31– Results Level –The training will contribute to improve the students' learning and performance after applying the practices learnt.

THE TRAINING WILL CONTRIBUTE TO THE EDUCATIONAL OBJECTIVES OF MY SCHOOL/GROUP - RESULTS

According to this chart, teachers feel that the training aligns with and will contribute to the broader educational objectives of their schools or groups. This indicates that the training content is not only personally beneficial but also supportive of institutional goals.

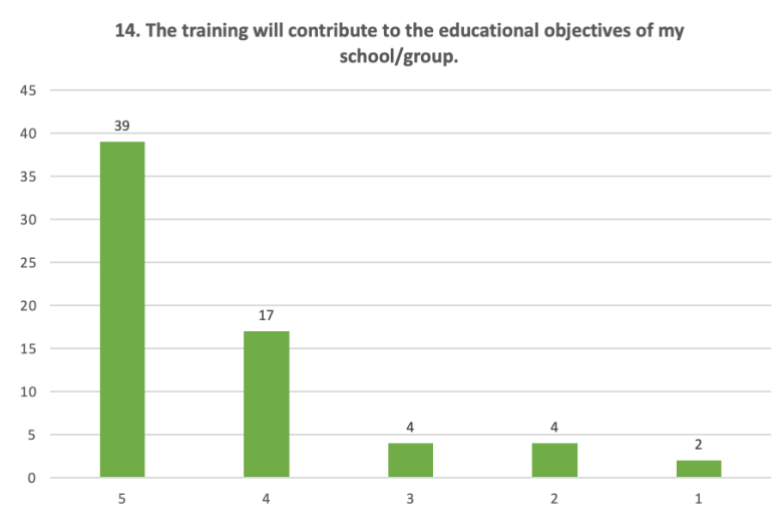


Figure 32– Results Level – The training will contribute to the educational objectives of my school/group..

THE TRAINING WILL HAVE SIGNIFICANT POSITIVE IMPACT ON MY TEACHING ACTIVITY - RESULTS

The responses here show that teachers expect the training to have a significant positive impact on their teaching activities. This underscores the perceived value of the training in improving their instructional practices and overall effectiveness as educators.

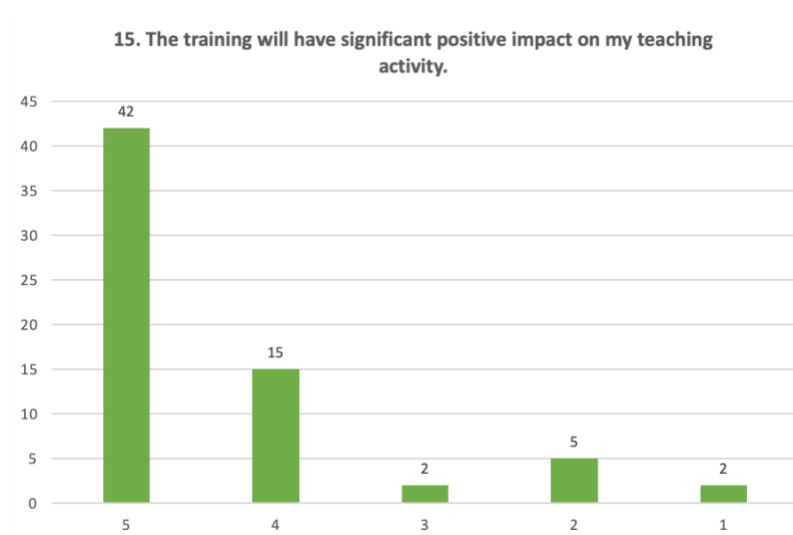


Figure 33– Results Level – The training will have significant positive impact on my teaching activity.

I EXPECT TO MAKE LASTING CHANGES IN MY TEACHING PRACTICE AS A RESULT OF THIS TRAINING - RESULTS

This chart reveals that teachers anticipate making lasting changes to their teaching practice based on what they learned from the training. This long-term perspective indicates that the training has the potential to create enduring improvements in teaching quality.

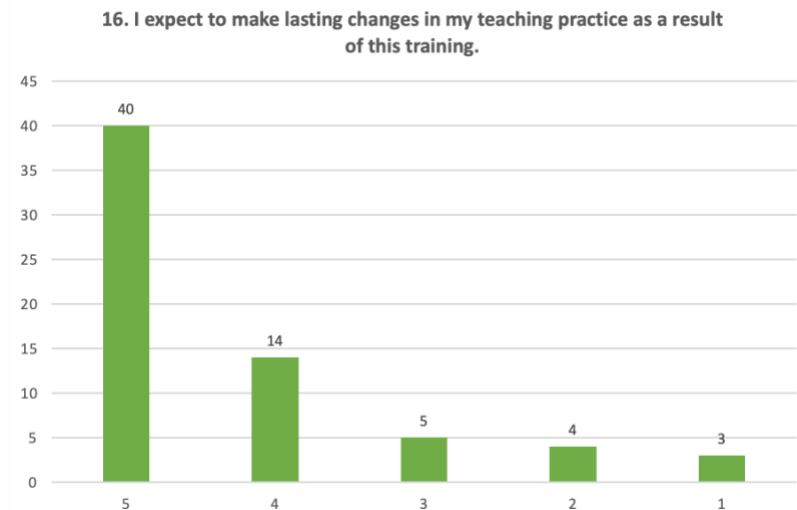


Figure 34– Results level – I expect to make lasting changes in my teaching practice as a result of this training.

TRAINING EVALUATION – Final Considerations

The overall analysis of the training evaluation reveals a positive reception among the teachers. The majority found the training content relevant, useful, and well-presented. They appreciated the materials, resources, and the user-friendly online platform. The training met their expectations and many would recommend it to others. Teachers reported gaining new knowledge and competences, feeling more confident about the topics covered, and having sufficient opportunities to engage with the content. However, some pointed out areas for improvement in the content and methods used.

Behavioral changes were noted, with teachers expecting to apply their new knowledge and having already observed positive changes in their teaching practices. Despite the need for more support to fully implement these changes, there is a strong belief that the training will improve student learning outcomes, align with school objectives, and have a significant, lasting impact on their teaching practices.

Final Considerations

The overall analysis of the training evaluation reveals a positive reception among the teachers. The majority found the training content relevant, useful, and well-presented. They appreciated the materials, resources, and the user-friendly online platform. The training met their expectations, and many would recommend it to others. Teachers reported gaining new knowledge and competences, feeling more confident about the topics covered, and having sufficient opportunities to engage with the content. However, some pointed out areas for improvement in the content and methods used.

The analysis of the training evaluation reveals a positive reception among the teachers. Of the 215 teachers registered on the eLearning course platform, 74 (approximately 30%) responded to the evaluation questionnaire. The majority found the training content relevant, useful, and well-presented. Specifically, 90% of respondents rated the content as relevant and useful for their teaching practice, and 85% found the online materials and resources appropriate and effective in facilitating learning. Additionally, 88% agreed that the online platform was effective and easy to navigate.

The training met the expectations of 87% of the participants, with 85% indicating they would recommend it to other teachers. Teachers reported gaining new knowledge and competences, with 89% agreeing they developed relevant skills for their teaching practice, and 86% feeling more confident about the topics covered. Moreover, 84% of respondents felt the training provided sufficient opportunities to work on the content learned.

Behavioral changes were noted, with 82% of teachers expecting to apply their new knowledge and competences in their teaching practice. Furthermore, 80% observed positive changes in their teaching approach and interaction with students following the training. Despite this, 75% of respondents indicated that they would benefit from more support to fully implement the new strategies.

In terms of impact, 83% of teachers believed that the training would contribute to improving students' learning and performance. Additionally, 81% felt that the training aligned with and would contribute to the broader educational objectives of their schools or groups. An impressive 84% expected the training to have a significant positive impact on their teaching activities, and 82% anticipated making lasting changes to their teaching practice as a result of the training.

In conclusion, the training program successfully addressed the critical need for digital proficiency in teaching, especially in the context of the pandemic. The structured approach to incorporating digital tools, online moderation, and assessment strategies into teaching practices has provided teachers with the necessary skills and confidence to navigate and enhance the online learning environment. The positive feedback and observed behavioral changes underscore the training's effectiveness and its potential to contribute significantly to educational practices. Moving forward, addressing the highlighted areas for improvement and providing continued support to educators will be essential in sustaining the positive impacts of this training program.

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