Educational Ventures

Project Code: 2023-1-IT-KA220-SCH-000151181

REPORT ON THE E-LEARNING TRIAL FOR TÜRKİYE

These reports are based on a pilot implementation activity carried out at a selected vocational high school in Çanakkale, Türkiye, within the scope of the Eduventures Erasmus+ Project. The implementation aimed to enable students to explore outdoor-themed learning experiences through augmented reality (AR)-supported digital content. During the activity, participants' pre- and post-training opinions were collected via surveys, and learning outcomes were measured with assessment tests administered at the end of each module. Report 1 presents students' overall satisfaction levels, their attitudes toward technology, and their perceptions of the content, while Report 2 focuses on module-based completion rates and quiz performances, providing data on the cognitive outcomes of the training process.

Survey-Based E-Learning Trial Report

Training Environment and Participant Profile: A total of 24 students (13 male and 11 female) completed the survey. Participants are between 15–17 years of age.

Module-Based Preference Distribution: Participants were asked the question, "Which module did you like the most?"

• Module 2 has the highest preference rate.
• Module 3 and Module 1 received a moderate level of preference.
• Module 5 and Module 4 were relatively less preferred.
• These data indicate that Module 2 was found more compelling in terms of content/topic.

Content Clarity and User Experience

• Most participants described the course content as "very clear and understandable" or "sufficiently clear."
• This finding is also consistent with the module completion rates in the LMS.

Motivation and Experience

• Most participants encountered XR (AR/VR)-based content for the first time.
• This element of "novelty" increased motivation.
• Some of the standout statements:
  - "I had never tried anything like this before; it was very fun."
  - "It was different from classes and caught my attention."

Course Participation and Attention Levels

• Most students stated that they were able to maintain their attention throughout the training.

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• Even individuals who experienced distraction stated that their interest was re-engaged during module transitions.

Observation-Based Qualitative Findings

a) Participant Demographics and Motivation

• The participants consist of students aged 15–17 studying at a technical vocational high school.
• Most students are proficient with digital tools; this facilitated their adaptation to the LMS.

b) Level of Interest and Immersion

• XR-supported modules were found to be more immersive compared to traditional education.
• Module 2 stood out particularly with its visual elements and content structure.

c) Module-Based Attention and Completion Times

• Attention spans are higher in the first 3 modules.
• It was observed that this duration decreased in the later modules.
• This may be related to content density or a decrease in motivation.

d) Overall Learning Experience

• Most participants emphasized that the content was clear and practice-oriented.
• The training was evaluated as "more lasting and enjoyable compared to school lessons."

Analytical Report Based On LMS (E-Learning) Modules

Module-Based Achievement Level
The training consists of five modules, and multiple-choice tests were administered at the end of each module. The results are as follows:

• **Module 1:** The majority of participants (80%+) provided correct answers and grasped the topic. However, there are also a few students who showed low performance.

• **Module 2:** While overall achievement is high, marked declines were observed on questions 2 and 4.

• **Module 3:** The performance distribution is wide; some students scored high while others remained at a moderate level.

• **Module 4:** Overall achievement is good; however, a 35% error rate in scenario questions is noteworthy.

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• **Module 5:** The success rate increased again, and better results were obtained especially on multi-step questions.
Overall, students adapted to the process.

Completion and Progress Data

• Completion Rate: %73,6
• Non-completers: %26,4
• Rate of users achieving 80%+ progress: more than %50

The modular structure and content design encouraged users to progress.

Module-Based Achievement and Performance (Statistical Data)

Module	Average	Median	Std. deviation	Max	Min.	Participant
M1	84.5	85	7.3	100	60	35
M2	86.2	88	6.5	98	65	35
M3	82.9	84	8.1	95	62	34
M4	87.7	88	5.9	100	70	35
M5	89.1	90	6.0	100	68	35

Observation:

• Average scores in all modules are above 80%.
• Module 5 has shown the most successful results.
• The distribution of achievement in Module 3 is wider.

Participants' Performance Distribution

•20% of participants showed an average success of 90%+.
• 60% of participants are in the middle group with a success rate between 70–85%.
• 20% of participants showed low achievement, falling below 50% in some modules.

Especially technical or theoretical questions challenged the low-achievement group.

Observations on Training Duration and Motivation

• Although duration varies between individuals, there is an overall continuity across modules.
• A positive correlation was observed between LMS usage time and quiz performance.
• Success also increased in the modules where the most time was spent.

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Qualitative Analysis Based on Observations

Participant Profile & Motivation:

Participants are mostly vocational high school students and are participating in digital training for the first time. Although there were reservations at the beginning, participation increased as they became accustomed to using the system.

Attention Span and Completion Curve:

• Module 1: rapid progress
• Modules 2–3: slowdown
• Modules 4–5: recovery
This fluctuation is related to content density and habituation.

Overall Learning Experience:

Participants found the relation of the content to daily life to facilitate understanding. No technical issues were experienced regarding the LMS system. The quiz formats were found effective, and an expectation for more interactive content emerged. Participants are curious about digital training, but an acclimatization period was required for some. Visual narration and short tests were appreciated. Participants described the content as "game-like".

One of the most striking elements observed during the training process was that, despite the homogeneous demographic structure of the participant group, it consisted of individuals with quite different learning motivations. Participants exhibited higher engagement especially in the interactive and practice-oriented sections of the modules. Some participants accessed the content in the early hours or outside school hours, voluntarily allocating extra time to the training. This indicates that the accessibility of the training materials and the module-based structuring had a positive impact on motivation. As stated in the surveys conducted at the end of the training, the visual richness of the content and the case-based approach contributed to participants describing the training as "immersive". When the module-based progression rates and the survey feedback are evaluated together, it can be concluded that the structured progression of the learning process supported participants' self-regulation skills. It is also very clear that this will help the development of the project.