Healthcare Transformation with Informatics and Artificial Intelligence
J. Mantas et al. (Eds.)

doi:10.3233/SHTI230523

Survey Results on Online Teaching and Learning Environments in the European EMMA Project

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Abstract. In the Erasmus+ project EMMA, a concept for a common digital teaching and learning platform is to be developed for an online joint master program. In the initial phase, a status quo survey was carried out among the consortium members, which shows which digital infrastructures are already in use and which functions are considered particularly important by the teachers. This paper shows the first results of the short survey via online questionnaire and discusses the challenges derived from it. Due to the non-homogeneous infrastructure and software use, there are neither the teaching-learning platform nor digital communication applications tools that are used equally by all six European higher education institutions. However, the consortium pursues the idea of specifying a limited tool pool order to strengthen the user experience and usability of teachers and students with different interdisciplinary backgrounds and digitalization expertise.

Keywords. Online learning, learning environment, joint master program

1. Introduction

The abbreviation "EMMA" stands for European Master on Active Aging and Age Friendly Society. This project's timeline is from 9/2020-8/2024 and six European higher education institutions from Austria, Finland, Greece, Ireland, Portugal, and Slovenia are participating. The project aims to address the challenge of demographic change in Europe by developing an interdisciplinary, compatible, and future-oriented master program within the framework of the European Approach for Quality Assurance of Joint Program (EQAR) [1]. Active aging aims to find new ways to engage older people in society before and even after retirement and thus enable them to continue to lead a meaningful life and even support economic, social, and natural sustainability [2]. An age-friendly society means creating environments that are truly age-friendly and inclusive and knows about the valuable contribution of older people to strengthen future human development. This requires action in many sectors: health, long-term care, transport, housing, labor, social protection, climate change, information, and communication as well as digital transformation, and many more [3].

The project's major challenge, among others, is to create a transnational online learning environment that is user-friendly for teachers and learners alike and contains all

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necessary aspects for synchronous and asynchronous teaching, learning and team building.

2. Methods

The challenge in the development of a jointly usable online platform lies first in ascertaining the needs and restrictions of the individual partner universities. Therefore, a user-centered development approach was chosen, which allows the active integration of needs and wishes of the future target group, at least on the teacher level. Thus, an initial online short questionnaire was developed to elicit these from the project partners. The participants had two weeks to complete the questionnaire to give the development team of the virtual learning platform initial indications for the development.

Table 1. Survey overview

Nor	Question	Answer possibilities
Q01	My university is…	Karelia UAS, Carinthia UAS, University College Cork, University of Lisbon, Ljubljana or Athens
Q02	Which learning management platform is your university using?	Moodle, Blackboard, Canvas or Other
Q03	What three (3) features do you feel are the most important to you in your platform? Please feel free to expand or make comments next to your selection.	Tests/quizzes, Material sharing, Multimedia capability, Student collaboration, Communication (forums, messaging), Gamification, Evaluation (assignments, feedback), Other
Q04	What is your preferred virtual classroom tool and is this the tool that your university is using? Simply add comments next to your selection.	Zoom, Microsoft Teams, Big Blue Button, GoToMeeting, Skype for Business, Zoho, Jitsi or Other
Q05	What are the key features you need in your virtual classroom?	Breakout Rooms, Whiteboard, Polls, Recording, Easy access to recordings, File and screen sharing, Audio sharing or Other
Q06	What plagiarism detection system is your university using?	Turnitin, Urkund, I don't know or Other

Table 1 presents the entire online questionnaire. The six questions used as well as the selected answer options are based on the experience of the project team members.

3. Results

The survey was sent out to the six partner universities. For some universities, the responses were submitted at the personal level, while others discussed offline in advance and then submitted a collective "opinion". Responses: Karelia UAS: four returns, Carinthia UAS and University of Ljubljana: each three returns, University College Cork, University of Lisbon and Athens with each one returns.

The results from questions Q01, Q03 and Q05 show clear duplications in the responses as the same information was provided for the same institution (No.). For this reason, the results of these questions are also shown below in a normalized version (NNo.) in order to show the use of individual platforms in the correct relationship.

In **Q02** most participants selected the use of the learning management platform Moodle (No. Selected 11, normalized No 3); both in the total number and in the normalized number (one selection per university). One person selects Canvas, and additionally, one participant indicated under "Other" that Moodle is not used directly but via a collaborative LTI connection. Nevertheless, Moodle is not used across the board in the participating European universities; platform technologies such as Canvas or Open Class are also used.

Table 2. Results Q03

Features	No.	Comments
Tests / quizzes	5	Important to keep the students engaged
Material Sharing	8	Sharing reading material, literature
Multimedia capability	6	Sharing links to videos for later discussions
Student collaboration	5	Engagement of students is one of the most important things
Communication	7	Important for those who do not like / do not feel comfortable speaking up
Gamification	1	Awards, educational games
Evaluation	6	Feedback necessary beside points / grades for assignments

The answers of **Q03** are shown in Table 2. The most important functions of a learning platform in the opinion of the questionnaire participants are that there is the possibility of easily sharing different learning materials, closely followed by an existing communication option. Reasons for this are seen above all in the fact that students have thereby a smaller inhibition threshold to communicate with their lecturers and fellow students - online team building possibility. The functions "multimedia capability" and "evaluation" were also frequently mentioned; on the one hand that multimedia content can be used more easily for teaching purposes or alternative teaching methods like flipped classroom and on the other that evaluation offers added value for students, particularly through meaningful feedback.

Table 3. Results Q04

Virtual Classroom	No.	NNo.	Comments
Zoom	5	3	Zoom has better features than MS Teams It is easy to use, enables screen sharing, pools, breakout rooms, chat, raising hand option, easy access etc
Microsoft Teams (MS Teams)	3	3	University restriction –MS Teams Teams in use but would like to use Zoom or even better BigBlueButton or Jitsi due to Moodle integration
BigBlueButton	1	1	Pro: easy to use, no installation needed; Con: just for meetings, no folder sharing possibility
Others	1	1	Collaborate: University uses it in Moodle, but also MS Teams is in use

Results of **Q04** are shown in Table 3. Zoom is commonly in use and preferred by the survey participants because of easy use and functionality. MS Teams is often used

because of the combination of communication and storage functionalities in one platform. A platform rarely used even with integration with Moodle as a feature was BigBlueButton. Options like GoToMeeting, Skype4Business, Zoho or Jitsi were not selected.

Table 4. Results Q05

Features v. classroom	No.	Comments
Breakout Rooms	9	Working in small groups is important, sometimes more effective and the students' bond more easily; Good for smaller group discussion
Whiteboard	1	-
Polls	4	Good for motivating discussions after
Recording	7	Importance depends on what is decided to be done: prepared lectures - students watch them at their own convenience or have lessons live
Easy access - recordings	1	-
File and screen sharing	10	Screen sharing is important when giving a lecture and also if students have to prepare something and have to or want to share with others when needed
Audio sharing	4	-
Quick reaction	2	-

In Table 4 (**Q05**) the different key features lecturers prefer in the virtual classroom are mentioned. Key features most selected were file and screen sharing, breakout rooms to engage students easily and ease the online group discussions and work. For asynchronous or flipped classroom lecture types, recording is also necessary.

The last question **QO6** was about the used plagiarism detection systems in the universities. Commonly used is the software Turnitin (No. 7, NNo. 4) but not every university uses it; the Urkund system is also used by two individual universities.

4. Discussion

Based on the results of the online survey, it was found that even among the small cohort of universities, there is no uniform selection, especially at the level of the technologies used. The universities draw from the full range of digital possibilities and apply them. Even though the trend is generally moving strongly towards open-source applications in the public sector, also based on the Open Source Software Strategy 202-2023 of the European Commission [4], nothing of this could be detected in the survey. For example, the use of the various virtual meeting tools shows that Zoom or Microsoft Teams is clearly preferred by the teachers, since the operation and selection of functions is suitable for their teaching concepts. Conversely, this means that a common teaching and learning platform or a uniform concept in terms of the user-friendliness of the Joint Online Master will also raise the question of costs for licenses and usage rights. What does not emerge from the survey, however, is the prior experience of using other technologies. Thus, there could be a bias in favor of familiar tools in which people feel confident enough to use for teaching. In addition, some universities have clear guidelines about which tools and platforms can and cannot be used in teaching, which makes it difficult to work together and find a common tool pool.

Also, according to the results, it was observed that "newer" concepts such as gamification seem to play no or only a very minor role in teaching so far. It could be further surveyed whether e.g. game-based online offers are not considered useful or applicable or whether it is rather a matter of barriers and fears regarding the development and application of such methods. It should also be critically noted that the online survey has a very limited view of the instructors especially in the questions about personal preferences and does not consider the students' wishes at all. In this phase, important parameters for teaching and learning design such as user experience, learning experience or joy of use could not be surveyed. However, since this is only a survey of initial tendencies in the consortium, the development team considered this to be sufficient or to provide the initial basis for concept proposals and subsequent discussions.

5. Conclusions

The first information regarding the landscape of digital teaching and learning platforms of the partner universities clearly shows that there is a non-homogeneous structure. This means that the development of a uniform tool usage strategy is made more difficult, or compromise solutions must be used. In EMMA the partners decided to go with a single-host structure and if needed to connect the other systems via LTI methodology. [5]

In any case, this survey shows only initial trends in its extent. Subsequent surveys with teachers and students, especially due to their interdisciplinary backgrounds, of the partner universities are needed in order to design and build an applicable and enjoyable teaching and learning platform. These conclusions will feed into the e-MeBe (e-Wellbeing and Mental Health in Older Adults) project, also funded by Erasmus+. In this project, which started at the end of 2022, the questionnaire will be extended and deepened and likewise the opinion of the students will be added in order to not only survey the technical infrastructure of the teaching and learning platform, but to enable and create an innovative concept of learning experience.

Acknowledgements

The research leading to these results have been co-funded by the Erasmus+ Program of the European Union under GA No. 2020-1-FI01-KA203-066477.

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