



# MAXIMUS PLATFORM TESTING

## Abstract

The contents of this document include the analysis of the pilot activities carried out by both students and teachers in all participating schools, as well as their suggestions for improving the Maximus platform, application and game.

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## ABOUT MAXIMUS

The aim of the "**Maximising learner's motivation, engagement and learning through gamified environments**" (**MAXIMUS**) is to create a digital and interactive motivational system that is customisable and designed to maximise learner engagement, motivation and learning in gamified environments. This system will be designed to encourage student participation, self-development, and the acquisition of transversal skills, as well as deep thinking and creative expression. By incorporating game-like elements, the system will encourage game-like responses and engagement from students. Ultimately, the aim is to create an effective tool that improves student learning outcomes in a fun and engaging way.

### Aims:

- To increase the level of stimulus in classes through technologies in a meaningful and effective way
- To increase learner's motivation and active engagement and at the same time increase learner's transversal skills, critical thinking and creative expression;
- To enable learners to monitor their own progress and reward their progress/success;
- To create an open and accessible environment for the school community;
- To help teachers/learners set/meet SMART (achievable) goals in the course;
- To provide useful tools for teachers to motivate and engage learners;
- To enable teachers to monitor learners progress in a variety of areas.

### IOs:

- Maximus System design & setup
- Maximum Platform Testing & Upgrade to Mobile application
- Maximus audio-visual instructions.

### Target Groups:

- Experts, teachers, and trainers
- Students

### About Gamification:

Gamification involves adding game-like elements to non-game activities **to increase motivation and engagement**. It differs from game-based learning, which teaches through games, whereas gamification aims to motivate and reinforce behaviors that lead to learning. Gamification is effective in different disciplines and factors such as motivation, variety, strategy, proportionality, accessibility, and fun should be considered to design effective gamification. **MAXIMUS is a tool that simplifies mission tracking, scoring and reward management to create a flexible and engaging gamification environment**. When designing gamification, factors such as objectives, context, philosophy, and student personality should be considered.

## INTRODUCTION

During the first phase of the project, the Maximum system was designed and developed. In the second phase, the system was tested with teachers and students. The Maximus Platform Testing and Upgrade to App report describes the testing of the system, the app and the game with teachers and students in the partner schools involved in the project.

The report is part of the Intellectual Output 2 and the main aim of this exercise is to evaluate the functionality of the system in practice, to identify errors and shortcomings through feedback from the educational community, and to make the tool available for practical use. At the end of this exercise, the final validated result will be obtained to subsequently develop a mobile application and mock-ups to make the system accessible from different devices. IO2 will produce two outputs: a transnational report containing the results of the testing phase with teachers and students, including recommendations for improvement, and a multilingual mobile application.

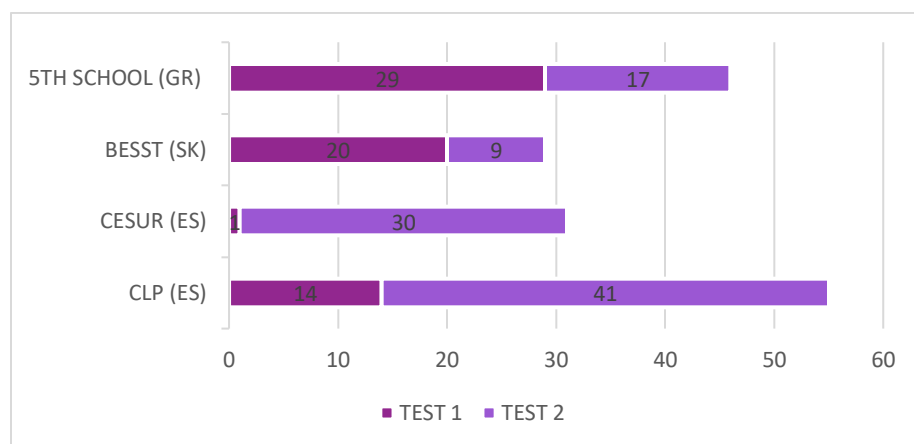
### What was tested:

- Test #1: Maximus Platform
- Test #2: Maximus Platform, Maximus App and Maximus Game.

### How many participants were involved:

The two testing rounds involved **161 students**. 64 students were involved in the first round and 97 in the second.

Total # of students involved in the testing:



## TESTING ROUND 1

### Overview of the testing with teachers and students

The testing activities foreseen in this project took place in two rounds. The first testing round took place between March and September 2022 to test the demo version of the platform to identify the possible errors and shortcomings and once the inputs for improvement were integrated, the second testing activities took place between January and February 2023. The participants of the testing were students and teachers from Spain, Slovakia, and Greece.

The first testing round gathered a total of 70 students and 8 teachers. Both students and teachers were asked to fill in a questionnaire **to find out how the Maximus system works in practice and to identify the error and shortcomings of the platform. 28 students and 2 teachers** provided their feedback which will be described below.

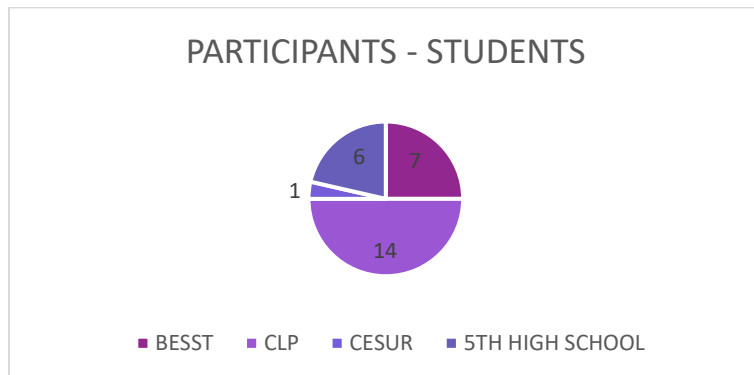
Flexibility was the main criteria for organizing the testing in the education institutions, therefore each school tested the platform according to their preference so as to time, subject or duration of the testing.

**The testing in Greece** took place over two sessions. Six students attended the first session, which lasts two hours. They worked on literary issues concerning metaphors in a poem. The second session was attended by 29 Greek and Italian students and lasted two hours. The students worked together on common Latin phrases in Greek and Italian. They discovered Greek and Italian words with common roots.

**The testing in Slovakia** took place over several sessions in a two-week period and gathered a total of 20 students. The goal of the sessions was to work with the platform and try to complete as many tasks and activities as possible to test the intuitive factor and its simplicity. Although the school received many positive insights, students identified a total of 6 errors within the platform. Most of these were relevant and able to be corrected/implemented swiftly to improve the system and make it more user-friendly.

**The testing in Spain** took place at two levels: CESUR organised a testing with one student and one teacher of VET and Colegio Los Peñascales gathered 14 students.

## Feedback from the Questionnaires



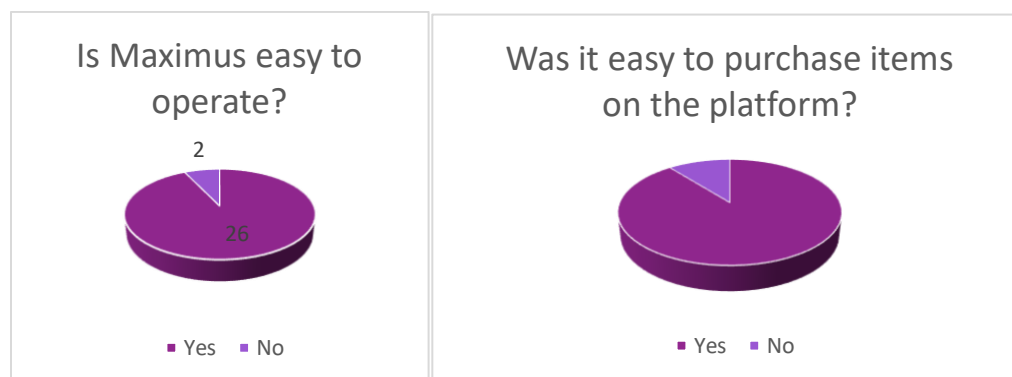
All participants in the testing actions were at least 13 years old. 18 participants were teenagers between 14 and 15 years old (50% were 14 and 50% were 15 years old) while 8 participants were above 15 years.

Out of 28 participants, 27 enjoyed the testing activity with the platform, only one student did not. All student stated that a platform such as the one proposed by Maximus –connected to the studies, is interesting to the students. 26 students were motivated to complete the tasks that were asked from the motivational system while two students did not. The overall excitement for subject increased to 68% of students (19) while to 32% it did not when using the Maximus platform. The reasons for not increasing the excitement were: *“my overall excitement remained the same, it did not change anything, because the software does not motivate me in subjects such as history and language, it motivates me in Physics, but we are not using this system anywhere else, because I am not interested in these subjects even if we play games”*.

According to 82% of students (23) the communication between them and the teacher went smooth while according to 18% (5) the communication was not smooth since *“most of time the communication was fine, but sometimes my messages were not sent (probably because they were long?), I did not see how to communicate with my teacher, we had some technical problems, it was ok but there were some errors on the platform”*.

96% of participating testers enjoyed the benefits/awards offered in the Maximus platform and to 86% these benefits/awards made them work harder in class.

Most students (79%) found it interesting to purchase nicknames with avatars while 21% did not. The reason behind this is that some do not find avatars interesting, others said that avatars were not available and that they don't like to buy anything. Other student asked, *“what has that to do with studies”*.



When asking students about **major improvements** to the platform, they replied:

#### Slovakia:

- “I like the idea and realization of this site/project. The site is working great, although I think you can enhance the sending system (allow bigger amount of text, a greater number of attachments we can send)”
- “I didn’t think of any major changes, but lately I tried to send a few projects through the website, and it wasn’t working, the site didn’t load. Maybe you could also add more types of tasks/activities and avatars”.
- “Cheaper stuff in some cases”
- “Earning superpowers for example: a one-use superpower for double of diamonds on a task”.

#### Greece:

- “I would like it more if avatars were more interesting”.
- “I find this platform very motivating and interesting. It helps us to deal with different tasks and it is perfect. So, I would change or add nothing to the platform”.
- “If I had the chance to change something to the platform, I would make it easier for every student to join, so that everyone could enjoy the benefits of this platform”.
- “I really like this platform, but I suppose that I would prefer it more if avatars were more interesting”.

#### Spain:

- “To be clearer, better organized”.
- “To include a dark mode”.
- “To be able to buy more than one person for the same reward”.
- “That some advantage could be purchased more than once”.
- “I think the platform is very good, but there should be more "proxy" purchases”.
- “In principle I wouldn't make any changes because in my opinion the platform is very well done, as it has a nice and intuitive interface that makes everything organised in a way that makes it

easy to find the activities and carry them out. Besides, all the extras that it presents make it an interesting platform and it can be a good way to motivate students”.

In conclusion, the Maximus platform has aroused a great deal of interest among students in the participating countries, as well as among the Italian students and teachers who carried out the tests on behalf of the 5th School in Agrinio. However, some improvements need to be made to increase its functionality and efficiency.

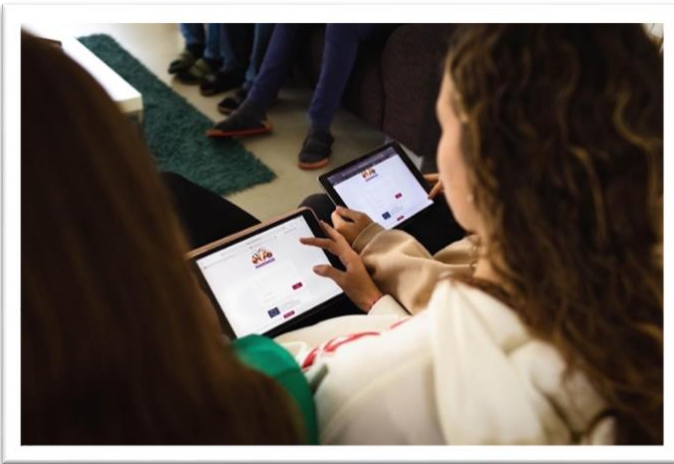
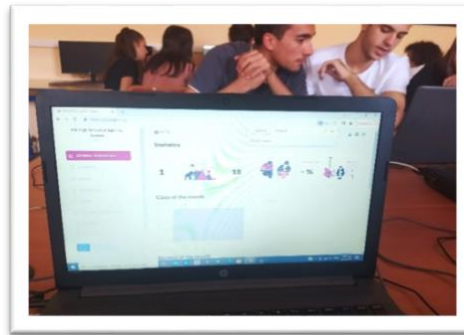
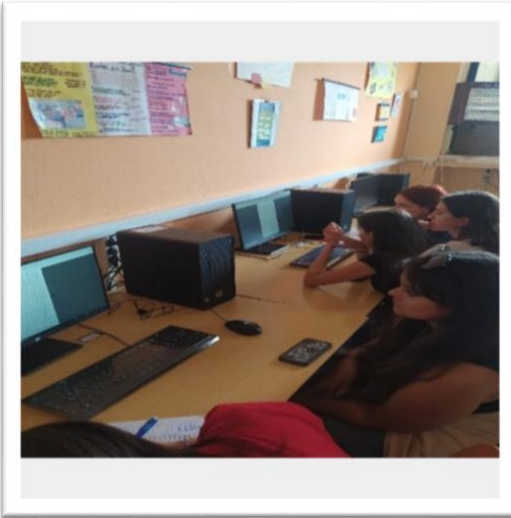


## MAXIMUS RECOMMENDATIONS FOR IMPROVEMENT AFTER 1<sup>ST</sup> TESTING ROUND

The following table reflects the problems identified during the testing phase #1 of the Maximus platform within the participating schools:

#	Identification of the Problem	Recommendation for improvement	Response to the Problem
	<i>Description of the problem/bug/error</i>	<i>Possible solution to improve the problem</i>	<i>Done. In Progress. Not implemented (short justification why)</i>
1	Some parts of the platform are in English/Slovak, not available in other languages.	<b>Translate missing elements</b> into partner languages	done
2	The attractiveness of the avatars could be improved	<b>Increase the attractiveness</b> of the platform by including avatars	in progress
3	Admin and teacher account incompatible for the same email address.	If we aim to have many users administrating the system, the <b>system should be more flexible</b> to allow teachers to be partially also administrators.	done - more teachers can log under the school administrator account and create tasks and activities
4	There should be an option for teachers to create tasks without going through administration	<b>Include an option for teachers</b> to create tasks without going through the "administrator" site.	not implemented - the reason is to not make the system redundant with tasks and activities, the one account system is to be somewhat monitored and prevent from making too many publications and making the platform confusing for its users
5	There is no "unlimited" option for maximum number of repetitions in a task or activity	Make the system more flexible and <b>allow unlimited repetitions</b> of tasks and activities	done
6	Validation of tasks and activities – school as default.	<b>To include teachers to be the one to validate</b> tasks and activities as default	done
7	Items in shop should have an image	<b>To provide items with an image</b> with the following requirements: a) optimal dimension should be announced; b) default dimension should be accessible just in case you want to change them later.	done
8	Items/tasks/activities are open by default in the student page and not the teacher page	All pages related to <b>items/tasks/activities should open by default the student page</b> and not the teacher's site	done
9	Sometimes students can't be added for a fulfilled activity or task		done
10	Some parts of the platform are not sufficiently user-friendly	Enable direct intervention on student's savings through admin (just in case)	not implemented - we can't make the administrator for school account to be able to see student's account, that would be breaching of privacy
11	Some parts of the platform are not sufficiently user-friendly	Facilitate a way to diminish all savings in a class, or set an expiration date for points (to avoid students making schemes and taking advantage of their earlier gains on a unit on which they are not fulfilling tasks).	not implemented - reason for that being is that the economic part of the system is still being tested and perfected, therefore any other intervention with this part of the platform will have to wait
12	Some parts of the platform are not sufficiently user-friendly	Deactivate of teachers points if wished, as they rise away more than those students, and probably many gamifications will only focus on students.	in progress
13	Some parts of the platform are not sufficiently user-friendly	<b>Import activities/tasks/items through an .xls document</b> , including who is validating it, points, etc. to gain efficiency of the platform.	not implemented (Yet) - since this was very time consuming and there are too many dependant variables we had to move on from it to other more important parts to be able to fulfill the deadlines, however we might return if more convenient way is figured out
14	Some parts of the platform are not sufficiently user-friendly	<b>Enable duplicity of activities/tasks/items</b> and then edit	done
15	Some parts of the platform are not sufficiently user-friendly	<b>Provide descriptors of task/activity/shop/avatars/collection</b> , etc. inside the platform, so it is more intuitive for users.	in progress
16	Some parts of the platform are not sufficiently user-friendly	<b>Easy way to "review"</b> limited tasks or tasks that passed their expiration date.	done
17	Some parts of the platform are not sufficiently user-friendly	<b>Ways to approving/admitting all students with a click</b> , and later uncheck those you want. It is tiring to give a collective reward if you must click on each student.	done
18	Some aspects are confusing such as Tasks/Activities, which are almost the same.	<b>To eliminate activities</b> , so they are just tasks in which the student decides not to attach any element.	not implemented - this would diminish the point of activities. Activities are not the same as tasks. Tasks are directly connected to school work, physical in class work on subject topics, where as activity is indirect motivation viewed and realised by the teacher when helping/assisting. Students don't have to do any in platform work when dealing with activities.

## Pictures from the testing session #1



## TESTING ROUND 2

### Overview of the testing with students and teachers

The second round of testing was conducted between 16 January and 17 February 2023 to verify the improvements made to the Maximus platform based on the results of the previous round of testing. In addition, the Maximus application was tested on both Android and iOS platforms. Participating schools involved in the testing activities were provided with guidelines for conducting the tests and online questionnaires to collect feedback from students and teachers. Participating education providers from Greece, Slovakia and Spain were given an extra week to complete their national reports.

The second round of testing involved 97 students and 6 teachers. They were all asked to complete a questionnaire to evaluate the functionality of the Maximus system in practice and to identify if any errors

or shortcomings persist. Of the total, 50 students and 6 teachers provided feedback, which is discussed below.

To ensure flexibility in the organisation of testing in educational institutions, each school was given the freedom to test the platform and the application according to their preferences, such as the timing, subject or duration of the test.

**In Greece**, the testing was carried out in a single session involving students who had already tested the platform in the previous phase and had an account. In addition, accounts were created for teachers. The testing process included content previously uploaded to the platform during testing phase 1. Students were asked to answer questions using their mobile phones.

**Several testing sessions were conducted in Slovakia** over a period of two weeks, involving a total of 9 students. The aim of these sessions was to test both the improved version of the Maximus platform from the first test and the newly developed game, Osmiiq Realms.

**The testing in Spain** took place at two levels: CESUR organised a testing with 30 VET students and two teachers, while Colegio Los Peñascales (CLP) gathered 41 students and 2 teachers.

At CLP accounts were created for both 2nd and 3rd grade students. During their 50-minute technology class, students used the online PC platform and the Android and iOS apps to beta test the platform. Afterwards, each student submitted a document with their feedback as homework, with photos attached to support their comments. CESUR tested the platform, the app and the game. They created two activities, two tasks, an inventory item and a school collection.

**At Colegio Los Peñascales (CLP)** 41 students, accompanied by two teachers, participated in the testing. The teachers also tested the platform on their own, with the aim of creating their own gamification systems within the platform.

**AT CESUR**, the platform was tested by 30 VET students, accompanied by two teachers.

**At BESST School**, the four teachers tested the improved version of the Maximus platform from the first test and the newly developed game called Osmiiq Realms.

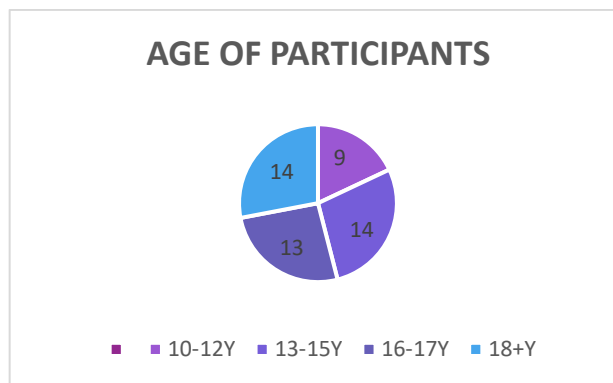
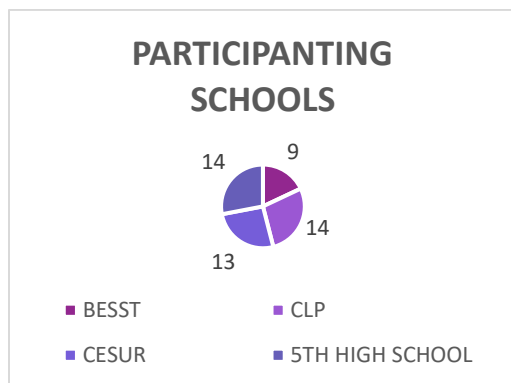
## FEEDBACK FROM THE QUESTIONNAIRES

### STUDENTS

All participants to the testing were asked to complete the evaluation questionnaires which were provided in online form. The answers to these will be analysed and summarised below:

#### Participants from the involved organisations:

Of the 97 participants who attended the test session, 50 gave feedback. Specifically, 14 feedback responses were received from Colegio Los Peñascales, 14 from 5th School of Agrinio, 13 from CESUR and 9 from BESST School.



The age range of participants in the study was diverse, with a total of 50 people providing their input. Most participants were between the ages of 13 and 15, with 14 individuals falling within this range. In addition, 13 participants were between the ages of 16-17 and 14 people were over the age of 18. The smallest age group was made up of participants aged 10-12, with only 9 individuals falling within this range. Overall, this data highlights the range of ages present within the study and provides an insight into the different perspectives and experiences of participants in different age groups.

#### What did you like the most?

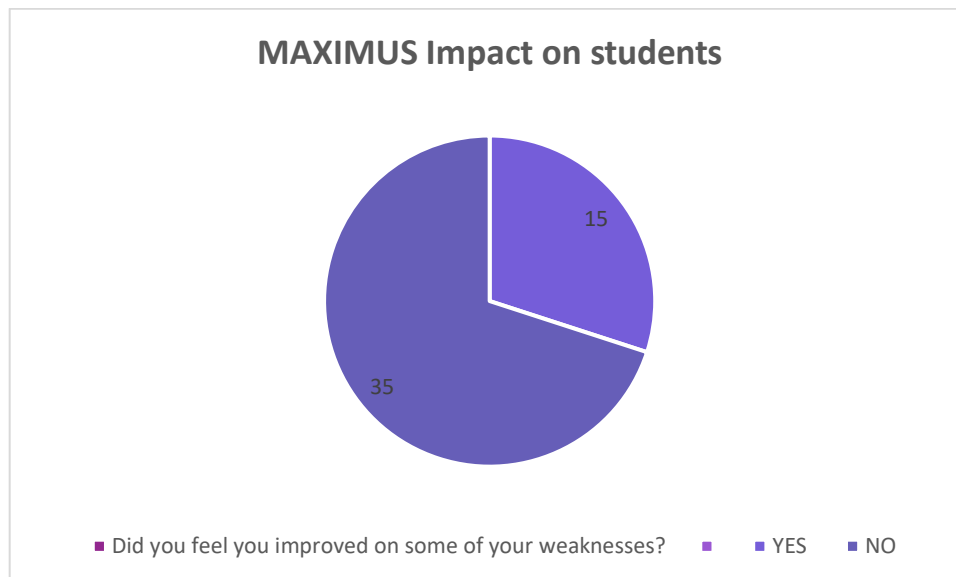
recognition  
 color  
 prizes icons digital  
 learning gems  
 avatars different  
 design characters game

#### What attracted you the most?

- “Maximus encourages a better and joyful way of learning”.
- “To learn in a different way”.
- “To learn in an attractive way”.
- “It helped me with my digital skills”.
- “I can do things with my iPad”.
- “I liked it and it helped me”.
- “To know how many ovos I have”.

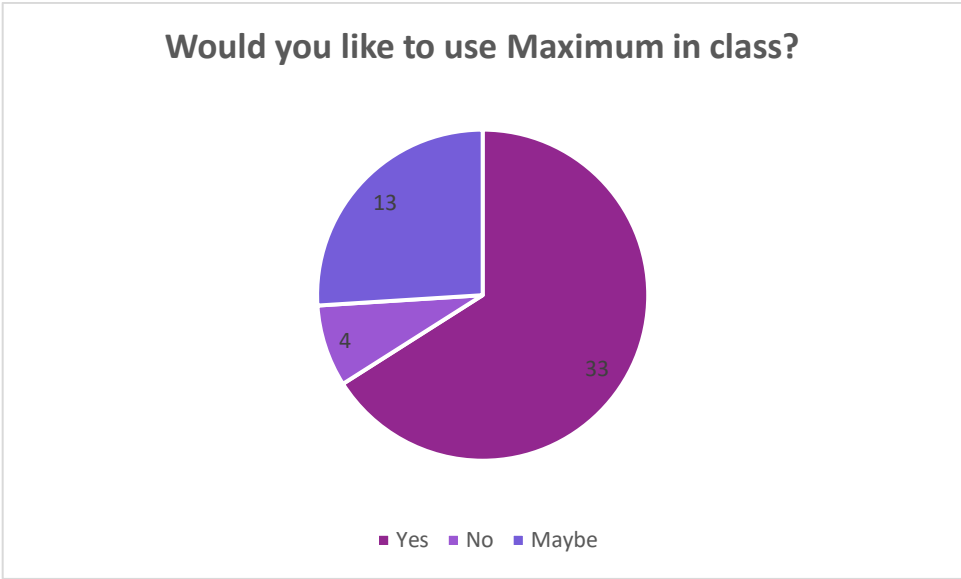
- “In my case, I didn’t learn anything new in terms of education but rather I learned something new”.

A total of 50 students were asked whether they had improved any of their weaknesses. Of these, 70% answered in the negative, indicating that they had not improved any of their weaknesses. On the other hand, 30% of the students answered in the affirmative, indicating that they had indeed improved some of their weaknesses.



Those students who replied positively, mentioned the following:

- “I deal more with this kind of work”.
- “I became more friendly and helpful”.
- “It enhanced my ability of concentration”.
- “It kept me more focused”.
- “I felt more confident”.
- “I felt more motivated”.
- “We worked in team, and I learned how to work in this way”.



As part of a survey of students, they were asked if they would like to use Maximum in their classroom. Of the total number of respondents, 33% said yes, **indicating that they would like to use Maximum**. Meanwhile, 13% of respondents answered 'maybe', indicating that they were unsure if they would like to use the platform. Finally, 4 respondents or 8% answered "no" when asked if they would like to use Maximum in their classroom. This data highlights the differing opinions among students regarding the use of Maximum in their classrooms and provides valuable insights for educators and administrators considering the introduction of such platforms into their curricula.

### If you had to pick skills that you have practiced with Maximus most, which would you pick?

As part of a survey about their experience of using Maximus, students were asked to identify which skills they had practised most while using the platform. Most respondents, 36 students, said that **they felt more motivated when using Maximus**. Meanwhile, 16 students felt that **they had learned more** by using the platform. Other important skills reported by students include **digital literacy** (14 students), **teamwork** (15 students) and **problem solving** (13 students). These results suggest that Maximus was effective in providing students with the opportunity to develop a wide range of skills, from technical competencies to soft skills such as motivation and teamwork. This data could be useful for educators who wish to design programmes that encourage the development of these important skills in students.

Some students reacted negatively to the platform, citing its complexity and lack of intuitiveness. Others expressed dissatisfaction with the app, with one student stating that although it aimed to be a better option than Google Classroom, it fell short in every way. Another student expressed disappointment with the platform's store, claiming that the rewards for work were not worth the time and that the avatars looked generic. Despite these criticisms, the student still felt that the platform was worth using as a point of comparison with Google Classroom, which they felt was a better option. In addition, the student

requested that the platform remove the 'allow cookies' button from the login screen, as they felt it made the application look suspicious and potentially harmful to their computer.

## TEACHERS

Overall, we have gathered 6 responses: four from Besst School and two from 5<sup>th</sup> High School. The analysis of the responses can be summarized below:

Out of six responses, five were positive when asked whether the platform had engaged students.

According to the feedback received from participating teachers, the most fascinating features of the platform include:

- Making teaching more enjoyable for both teachers and students.
- Encouraging student creativity and motivation.
- The ease of access to projects from any location.
- The convenience of not having to collect a large number of paper submissions for projects, thus promoting environmental friendliness through electronic submissions.

The platform has brought many benefits to its users, and if you were to choose a single way in which it has made their lives easier, it would depend on their personal experience. For some teachers, **the platform has made teaching more enjoyable for both them and their students, thereby increasing engagement and promoting better learning outcomes.** For others, **the electronic nature of the platform has eliminated the hassle of collecting and managing large amounts of paper submissions, promoting an environmentally friendly approach to education.** **The platform's accessibility** from any location has also been a significant benefit, allowing students to access learning materials and complete projects remotely. Finally, the efficiency of the platform has been a game changer for many, streamlining administrative processes and saving time and effort. Ultimately, the platform's various benefits have made it a valuable addition to the educational landscape, meeting diverse needs and promoting a better learning experience for all.

Teachers perceive Maximus as a platform that offers many opportunities for students to develop their skills in different areas. The interactive nature of the platform **encourages active participation and group work**, making it an ideal tool for **developing critical thinking and collaboration skills.** Maximus also supports the **acquisition of basic skills such as reading, listening and digital literacy.** These skills are essential for success in academic and professional settings and are often critical in today's fast-paced digital environment. By using Maximus, students can develop technical skills such as navigating digital interfaces and collaborating online, which are essential in the modern world. In addition, the digital nature of the platform allows students to develop digital skills that are increasingly valuable in today's workforce. The use of a platform such as Maximus therefore provides students with the opportunity to acquire and develop a range of skills that are essential for their academic, personal and professional development.

Teachers were asked to describe MAXIMUS with one word/phase/sentence:

creative  
 interesting user-friendly  
 intriguing  
 game intuitive  
 playful

Five out of six teachers responded positively when asked if they would like to incorporate Maximus into their teaching practice, while one teacher responded with a 'maybe'. The teacher who answered 'maybe' clarified that her decision would depend on the subject matter of the project.

## MAXIMUS RECOMMENDATIONS FOR IMPROVEMENT AFTER 2<sup>ND</sup> TESTING ROUND

	Identification of the Problem	Recommendation for improvement
1	Completed tasks look exactly the same, they should change to give some feedback to the student that it has been done.	Implement a progress tracker for students to monitor their task completion and progress within the platform.
2	Rather than just showing the number of files attached, it would be helpful to be able to preview the files being sent when sending multiple files.	Add preview feature for multiple file attachment to improve user experience and avoid incorrect or irrelevant files being sent.
3	Students were not able to send zip files.	Enable zip sending or suggest alternative file compression methods to improve platform functionality for students.
4	The game is not visible in the application profile.	Investigate and fix why game is not displayed on app profile to increase visibility and engagement. profile.



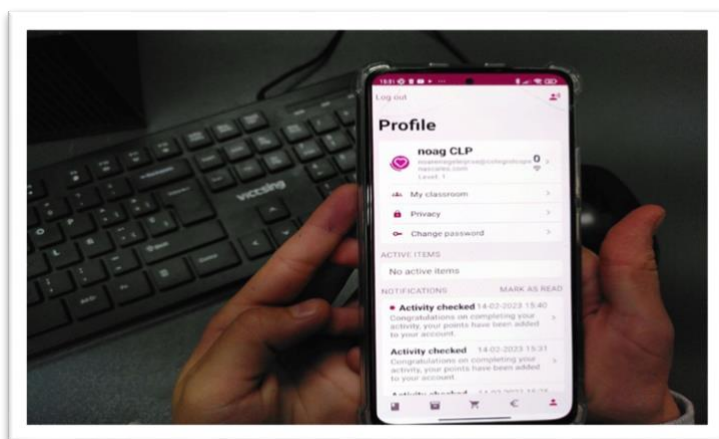
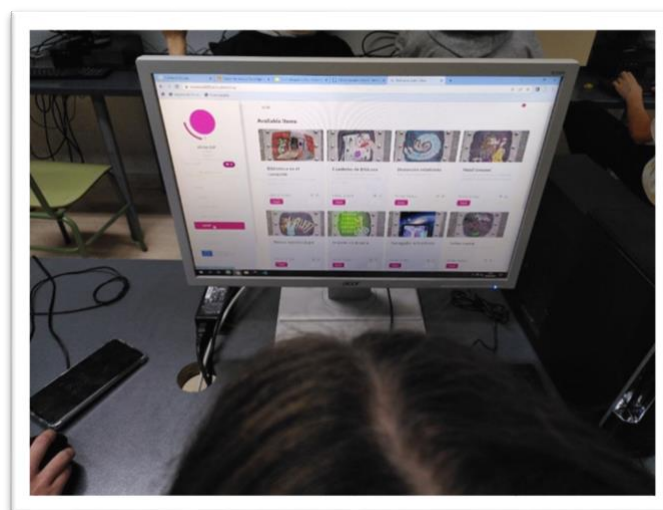
5	Teachers can't see what students buy	Implement the ability for teachers to view student purchases to monitor engagement and provide targeted feedback.
6	Students loved the avatars and would like to have more	Add avatars to user profiles
7	Be able to change username	Add option to change username
8	There are duplicate sections on the platform, such as task-activities and inventory.	Remove or reorganise redundant sections of the platform to optimise functionality and improve user experience. Regularly review and update platform features to ensure relevance and effectiveness.
9	The platform is not user-friendly on mobile devices and app	Optimise the platform for mobile devices by improving the user interface, simplifying navigation, and incorporating mobile-specific features. Test and incorporate user feedback to ensure maximum usability.
10	The avatar is not visible on mobile devices	Optimise avatar display for mobile devices by adjusting size and placement on screen, and testing across devices to ensure visibility and functionality.
11	The platform does not maintain a usage history.	Implement a usage history feature that allows users to review their past activity on the platform, including completed tasks, purchases, and other relevant actions. This can help users track their progress and make informed decisions about their future use of the platform.
12	It's challenging to monitor students' purchases. A more visual representation of the entire class is required.	Consider implementing a dashboard or summary page that displays all students' purchases and progress in a clear and concise manner. This can include a visual chart or graph that shows each student's progress and achievements, as well as any purchased items or rewards. Additionally, consider providing a search or filter function to easily find and track specific student purchases. This will help teachers better understand their students' progress and engagement with the platform.

13	Very difficult to keep track of what students buy. We need a more visual way to see the whole class.	A possible recommendation could be to implement a feature that allows teachers to view a summary or report of what items each student has purchased or acquired within the platform, in a visually organised and easy to read format. This could be in the form of a table or graph showing the student's name, the item purchased and the date of purchase. In addition, it might be helpful to have the ability to filter and sort the data by various criteria, such as item type or date range. In this way, teachers can have a better understanding of what their students are engaged with and tailor their teaching approach accordingly.
14	To delete accounts, you must go one by one.	Implement a bulk delete feature for accounts to make the process more efficient.

15	The accounts are not fully deleted, and the old information is retained when attempting to create a new account with a previously used email.	to implement a complete deletion process that permanently erases all data associated with an account, including the email address, to avoid potential privacy and security concerns. Additionally, it would be beneficial to implement a unique identifier for each user to prevent any confusion or mix-up of old and new account information.
16	Capability of adding students through .xls directly into the desired class, instead of having to move them later.	Implement a feature that allows teachers to upload a .xls file with student information directly into a desired class, instead of having to manually move each student afterwards. This will save time and streamline the process of adding new students to a class.
17	Adding ways of ordering the list of students to make it easier to find who you want (mainly with many students)	Implement a sorting feature in the list of students to enable teachers to quickly find the student they want. This can include sorting by name, ID number, date of enrollment, or any other relevant criteria. Additionally, a search bar or filter function could be added to further enhance the usability of the student list.
18	Can't edit experience levels.	Consider adding the ability for teachers to edit experience levels for students. This would provide more flexibility in adapting to students' progress and achievements and enable teachers to better customize their teaching approach.
19	Couldn't understand what categories are for	Provide clear and concise instructions on how to use the categories feature, including their purpose and how to create and assign them to tasks or activities. Additionally, provide examples of how categories can be used to help students and teachers better understand their usefulness.
20	The shop is the same for every student. Rewards should also be assigned specifically for a class.	Implement a feature that allows teachers to customise the rewards available in the shop for each class, so that rewards can be assigned specifically to a class. This would provide a more personalised and meaningful experience for students and increase their motivation to participate on the platform. It would also allow teachers to tailor rewards to the specific needs and interests of their students, which could lead to a more positive and engaging learning environment.
21	Lacking a way to see general info on students without going one by one (savings, rewards in use...)	Consider adding a dashboard or summary page that displays an overview of each student's savings, rewards, and other relevant information. This will make it easier for teachers to quickly assess the progress of each student without having to check individual profiles one by one. Additionally, the dashboard could also include filters or sorting options to allow teachers to quickly identify students with similar characteristics or needs.

22	Lacking images for activities and tasks	To improve the platform's visual appeal and make it more engaging for students, it would be helpful to include images or icons for activities and tasks. This could also help students quickly identify and differentiate between different types of activities and tasks.
23	Preset images for rewards, images and tasks, that you can use until you make your personal ones.	To include a library of preset images for rewards, activities, and tasks that users can select from when creating content in the platform. This would save time and effort for users who don't have their own images and would also ensure that the content looks visually appealing and consistent across the platform. Additionally, users could still have the option to upload their own images if they prefer.

## Pictures from the testing session #2



## CONCLUSIONS

During the two rounds of testing, **a total of 161 students** (64 in the first round and 97 in the second) **and 8 teachers** tested the platform, app and game developed by the Maximus project between March and September 2022 and January and February 2023 in schools in Spain, Slovakia, and Greece. The first round revealed technical problems such as missing translations, few avatars, and accessibility issues. The second round showed significant improvements, but there are still some limitations in the gaming component. While the platform has potential for innovative and sustainable teaching practices, the development of additional avatars or add-ons would require additional resources and time not available for this project. Partners will explore strategies on how to continue improving the platform.

**The platform has showed to be successful in making teaching more enjoyable for both teachers and students, particularly in school education**, increasing engagement and providing opportunities for students to develop skills in a variety of areas. The interactive nature of the platform encourages active participation and group work, making it ideal for developing critical thinking and collaboration skills. Both teachers and students have described Maximus as "creative, interesting, intuitive, playful and fascinating".

**While the gamification platform may be effective in motivating VET students to complete homework, it may not be as useful during class time due to the potential distraction of the gaming component.** Therefore, it may be necessary to explore alternative methods of using gamification in the classroom to ensure maximum engagement and minimise distraction.

Preparation time for the gamification platform and app may be longer for teachers, but once completed, they are straightforward and intuitive to use. Although it may take some time for students to learn the game mechanics, they were able to understand the platform and app quickly. The development of manuals for the platform and app is expected to further improve the understanding and efficiency of the platform, benefiting both teachers and students.

Students wished for a more intuitive presentation of information with additional guidance, particularly in relation to avatar-related features. Teachers found it easy to set up classes initially but found it difficult to use over time due to time-consuming and confusing administration and monitoring features. They recommended the inclusion of visualisations for managing many students at once. Overall, improvements to the usability of the platform could increase its effectiveness for both students and teachers.

## ANNEX

### Guidelines for Testing

Here below you can find the **guidelines on how to proceed with the Maximum test # 2:**

1. If you wish to refresh how to use the Maximus platform, please read the [Maximus Set Up Guide](#).
2. If possible, repeat the test with the class you tested at the beginning. Ideally, please test with at least 15 students and 2 teachers.
3. Each partner is flexible to choose the activity/signature, age of students, etc. but needs to report afterwards, using the following [TEMPLATE](#).
4. For testing purposes, you can use 1) the **Maximus platform** or 2) **Maximus application**, which can be downloaded either in IOS (apple) or on Android. The domain Maximus was taken so we had to improvise and use this one for IOS: <https://apps.apple.com/sk/app/maximus-app/id1637048182> and this one for Android: <https://play.google.com/store/apps/details?id=sk.maximus2020.app>
5. The login/registration works the same as before with the difference that we have IOS and Android apps as well (available for student and teacher accounts). This means that everything needs to be set via computer, but later can be (by teachers and students) used and tested via mobile/tablet. If you will find any technical or graphical problem, please make a note where it happened and what device have been used (ideally also make screenshot) and sent an email to: [REDACTED]
6. The new game can be found under “profile” (avatar builder). The Game works in a way that students are earning points for completing tasks (student can gain 1-3 points based on difficulty of the task – more details can be found in the Maximus Set Up Guide). In game, students are using points to unlock new cards, when enough cards are collected, students gain new customizations for their avatars.
7. Please do not forget to send a screenshot of your Maximus site and a picture of the testing session (students can be photographed from behind) but logo of the project, EU, etc. needs to be seen.
8. Unless your students/teachers are fluent in English, please translate the muster evaluation questionnaire into your own language. You can translate the questionnaire quite easily: just go to “settings” and select multilingual settings and choose your language. Important! Do not write directly into the questionnaire as it would be changed for all. Spanish and Greek partners can coordinate the translation. In the section below you can find the editable version of the questionnaires.

**Once you have completed the testing, please:**

9. A) Ask the testers to complete the evaluation questionnaire. Please try to be coherent: # of testers with # of questionnaires filled in.
  - i. **Editable Questionnaire for students:**  
<https://forms.office.com/Pages/DesignPageV2.aspx?subpage=design&FormId=kkMSNmHIaEqAhQjoRCS9V-4fLwftbo9LnBFzhCka3QBURUZHMDc1MlIDNVMyVFQzSFIFVEQ5NDRXOC4u&Token=4255fc0986264d56b8fba9bc423b7858>
  - ii. **Answer link for students:**  
<https://forms.office.com/Pages/ResponsePage.aspx?id=kkMSNmHIaEqAhQjoRCS9V-4fLwftbo9LnBFzhCka3QBURUZHMDc1MlIDNVMyVFQzSFIFVEQ5NDRXOC4u>
  - iii. **Editable Questionnaire for teachers:**  
<https://forms.office.com/Pages/DesignPageV2.aspx?subpage=design&FormId=kkMSNmHIaEqAhQjoRCS9V-4fLwftbo9LnBFzhCka3QBURFc0NDAXOVFNMDBNWk5GM0dHOFVPR1hZRy4u&Token=2365eec1fb4840e288f5a2b63ce7ed25>
  - iv. **Answer link for teachers:**  
<https://forms.office.com/Pages/ResponsePage.aspx?id=kkMSNmHIaEqAhQjoRCS9V-4fLwftbo9LnBFzhCka3QBURFc0NDAXOVFNMDBNWk5GM0dHOFVPR1hZRy4u>
- b. B) Complete the template Testing # 2 (link above, but also available in SP) and send it to: [REDACTED]. All documents will be consolidated into one sole document by the coordinator. Please be concise and clear but provide information that can be used to draft the report which will be send to the Slovak National Agency.

- 10 The timeframe for **testing and reporting** is from **Monday 16.01.2023 until 17.02.2023**. It would be much appreciated if we could have some preliminary findings (testing, not reporting) for our transnational project meeting in Madrid.
- 11 Please respect the final deadline (17.02.2023) otherwise we will have troubles in closing the project on time and there are still pending activities and multiplier events (IO3).

**THANK YOU!**

### Motivation System Development Testing - Template

Partner Organisation	
Date	
Duration	
# Testers	
Age	
Brief description of the testing ( <b>Important!</b> Do not skip this!) <i>Please include at least: what were you testing – platform or APP, signature, exercise and how.</i>	
Brief description of <b>remaining problems</b> <i>Example: were students able to upload and send documents? Is there a device on which you encountered specific problems?</i>	
Were you able to test the newly integrated Maximus game? How could it be improved? Are there specific issues regarding the game itself?	
<b>Brief conclusion</b> from the responsible partner who collects this perception from teachers and students. (Atmosphere, satisfaction of the testers, etc.)	
How much time does it take you to operate the system properly? And how much time does it takes students? Is it too long or manageable? What could be improved in this regard?	

#### DO NOT FORGET TO

- Test the activity with 15 students and 2 teachers.
- Translate the evaluation form and ask students and teachers to evaluate the session. Link provided in the **Guidelines**.
- Include a screenshot of the session and max. 3 pictures of the participants testing the platform.
- Upload this document on SP and communicate that you have done so to the project coordinator.

**THANK YOU!**