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<Report about Analysis of Platform Requirements>

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1 INTRODUCTION

The present document corresponds to D1.1 Analysis of platform requirements, the first deliverable of intellectual output IO1 “Open platform for the exchange of gamifying content and community building”, including the following tasks and objectives:

- technical requirements from the user's point of view in order to be able to access the content as easily as possible and to make later use more likely
- specific tools will be developed in WP1 in order to support the implementation of innovative approaches to teaching and learning, as well as the strategic and integrated use of ICTs and open educational resources.

2 INITIAL DESIGN FRAMEWORK

2.1 The objective of the project

It has been agreed that the primary objective is **NOT** to provided ready to use games and content, organized by subject, type of students etc. **RATHER** it is to increase general awareness of the teachers regarding game-based learning, provide them with methodological tools and framework and illustrate with use cases and good practices.

This objective is important to keep in mind in the design phase of the project, content collection as well as in the communication with the teachers involved in the project.

The goals related to the content of the platform are:

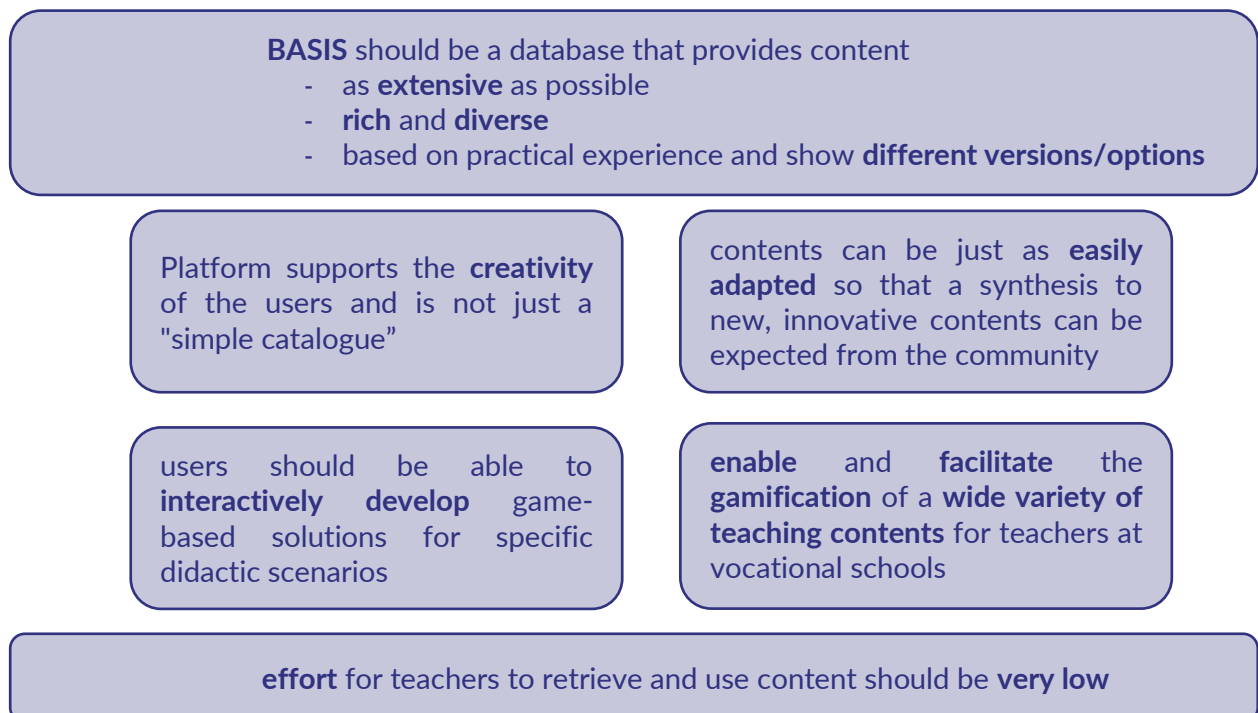


Figure 1. Main goals of the platform

Looking at these goals, several challenges need to be tackled: On one hand, a lot of content needs to be added, not only during the project but also later, in order to be useful for teachers and produce results when they search for a specific game idea. To facilitate and motivate teachers to use the ideas and examples presented, the content has to be prepared to be “ready to use”. The content also needs to be presented in a short but clear way that is easily searchable. At the same time, the content needs to be prepared in a way that stimulates the teachers’ creativity and lets them adapt game ideas to other topics, thus links it to similar ideas, alternative suggestions or further information (possibly on other websites).

2.2 Content structure

As planned in the proposal, the structure of the content and the content itself (IO2, Task 2.1) are being developed in parallel, because they are interlinked closely. Therefore, the decision on the kind of content to be collected and how to collect it and was already decided during the Kick-off meeting in M2. Starting from the main goals to be achieved with the platform that we defined in the proposal, the partners refined and categorized them, translated them into more concrete features and drafted a structure for the content collection.

Further analysing the goals above mentioned, the partners drew first conclusions regarding the structure of the content:

- (1) The collection should, in a first step, not exclude any aspects of game-based learning in order to collect a lot of material, which can later be sorted. A potential focus on certain aspects of game-based learning can be decided after a review of the initial collection.
- (2) The examples need to be described well and in detail, allowing teachers to use them “as is”. A short summary and overview for each example needs to be added, possibly with icons to identify and distinguish them at a glance. The kind of information and the details to be presented on the platform was decided but not exclusive (see below).
- (3) The examples should be enriched with suggestions on how to adapt them to other contexts/topics and/or linked directly to similar examples. It was decided that they should be categorized in bigger, overarching and interdisciplinary topics rather than specific school subjects.
- (4) There needs to be a search function. To facilitate this, the content should be already collected in different categories (see below).

With these goals in mind, the partners decided to use a bottom-up approach and start with a collection in an Excel template (see Appendix A). The goal was to get an idea of the kind and amount of content they can collect in a few weeks and to decide on the necessary structure with a clearer idea of the content. Since all partners are to varying degrees experienced in game-based learning, each partner was asked to collect around five examples in the following categories:

GBL Examples & Best Practises: specific games and game ideas

Gamification Mechanics & Elements: types of games and gamification elements but also general information n game-based learning

Gamification Tools: tools to create games

Dissemination & Networking: similar or relevant networks, projects and initiatives that GATE:VET could possibly connect to for the dissemination and/or refer to on the platform

For each category, different specifications were given in order to prepare the integration of a search function and/or being able to add tags later for the users to find the relevant content.

Those were:

Collected by: which partner added the content

Analogue/digital: what type of game is it, can it be played with/without a PC/tablet/smartphone

Target group: age group or other specifications of the target group

Type/Goal of Learning Activity: for what kind of learning situations is this game suitable (repetition, acquiring new knowledge, using knowledge, etc.)?

Subject: which topics are covered by the game, which subjects is it mainly useful for

No. of Player(s): is the game for a whole class, done by each student individually or in groups?

Description: short description of the content and type of game

Source: link to a detailed description or the game itself

Altogether, this initial collection resulted in 17 *GBL Examples & Best Practises*, 16 *Gamification Mechanics & Elements*, 16 *Gamification Tools* and 4 *Dissemination & Networking* opportunities.

2.3 The digital platform

The proposed starting point for the platform creation is the **Teemew Mobile** application, developed by Manzavision, which at the beginning of the project allowed the following features:

- Creation of **educational sheets** in the form of articles of 1500 characters maximum which may include images and videos.
- Creation of **flashcards**, **mini games** and **quizzes** in relation to the articles which may be used as gamified training on different themes.

During the kick-off meeting, the question about longer content was raised, since it is not adapted to a mobile usage. Therefore, we decided to complement the mobile application with an **online data base** in the form of a web portal, which includes the possibilities below:

- Creation of **educational sheets** over 1500 characters as well as the **attachment** of additional documents.
- Possibility to **comment** and **share**.

We have articulated the different project's stages in a schema that comprises the combination of both parts.

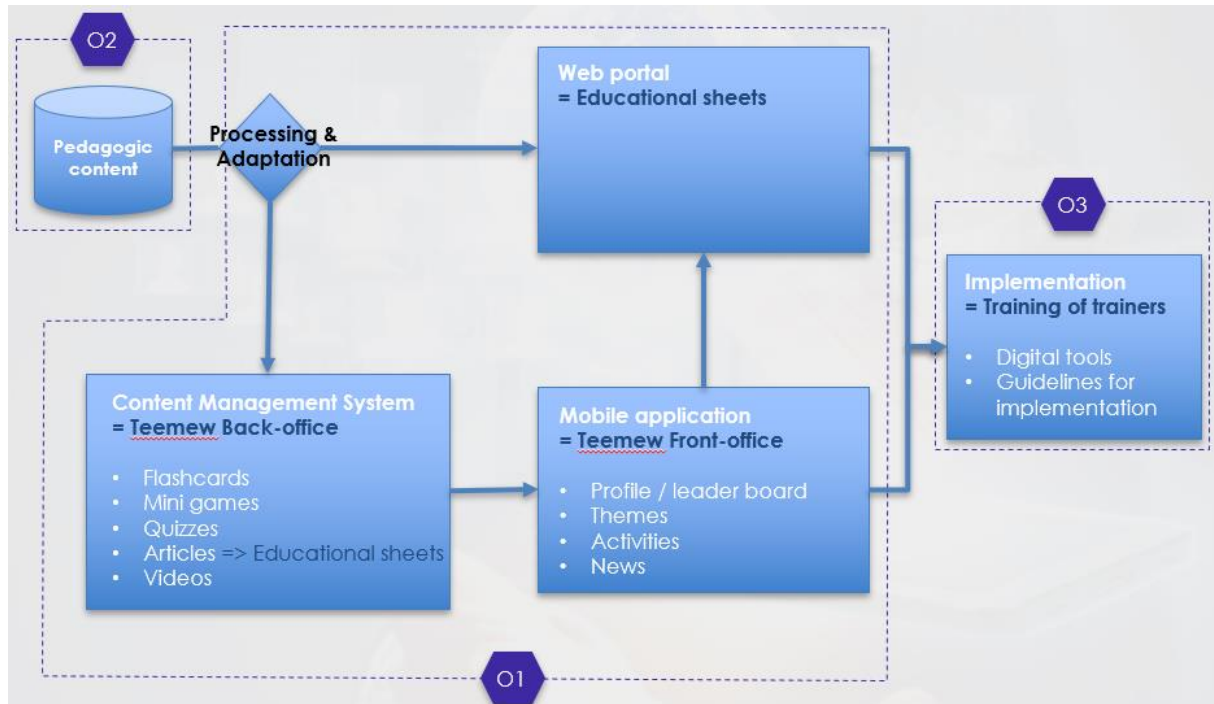


Figure 2. Proposed organization schema O1, O2 and O3 relates to Intellectual Outputs described in the work program

In order to make the most of this combination, we have also identified the following needs:

- The educational sheets should contain **links** to the platform's web portal as well as other websites for further information.
- A **search tool** should be available, for instance through "**tags**" to "**filters**" or a "**search bar**".
- A **rating tool** should be available to identify most relevant content, for instance through a "**like**" button or "**stars**".
- The application should be available on a **web browser**, for instance through a WebGL version.

The objective of the design phase of the project is to refine the use of both component of the platform: the mobile application and the web database and define the required features to be created.

2.4 The platform users

We have identified 4 types of users for the platform:

- **Administrator:** Manages the access to the platform and its users, i.e. IT-pedagogical consultant, Webmaster, Developer, Teacher (IT).
- **Content Contributor / Moderator:** Creates and/or validates content, i.e. Expert in GBL, Teacher.
- **Trainers:** First end users to test the platform during the Training of Trainers (O3), i.e. Teachers, IT-pedagogical consultants, "IT support" teachers.
- **Trainees:** End users who consult and train themselves with the platform, i.e. Teachers, Students, Teacher apprentices, "IT support" teachers.

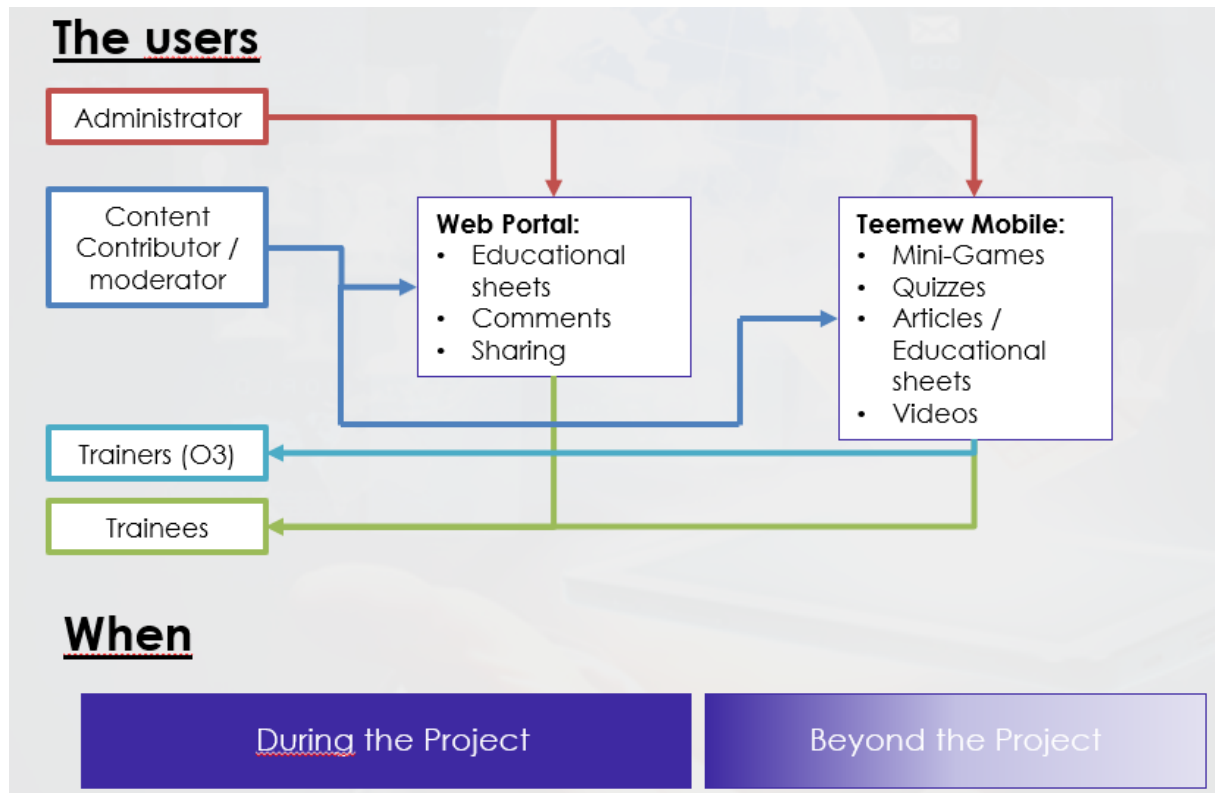


Figure 3. Defining the users and their roles

Trainers (trained in O3) should be distinguish as a different user, as a more experienced trainee that can help other but will not necessarily contribute with content production.

IT pedagogical consultants are not teachers.

Experts in GBL are not necessarily teachers either, i.e. researchers.

3 METHODS

We have addressed 3 main subjects in the design phase of the project:

- (1) **Definition of game-based learning associated with content requirements and users' expectations of the game-based platform:** this has been achieved through **interviews** with end users
- (2) **Design and development of the Web data base:** this has been achieved through a **benchmark** of existing platforms. (This benchmark also contributes to the content collection.)
- (3) **Design and development of the Teemew Mobile platform from a user-centered perspective:** this has been achieved through several **workshops** organized with teachers from partners schools.

We describe hereafter the detailed methodologies applied and in the following sections the obtained results.

3.1 Interviews to define the content

We have designed a set of questions for eliciting teachers' responses on how they experience game-based learning and what content and features they would like to use on the gamified

platform. In order to evaluate the platform's usefulness and usability later on, the interviews were important to define the end users' needs and to establish some criteria for the evaluation. 18 interviews have been conducted with teachers from the 3 partner countries. After consultation, agreement and feedback from the partnership we devised the following set of questions. We have used a thematic approach to analyze the interview set, with focus on experiences of game-based learning and categorizing gamified content and platform features as experienced from the teachers.

Question 1: What game-based learning means to you and in what ways could it be used to improve the design and delivery of learning and teaching?

Question 2: What are your current experiences in game-based learning? Could you please give an example?

Question 3: How would you perceive, that a simple-to-use gamified platform for accessing and retrieving gamified learning content would help you to enhance your teaching practice?

Question 4: Could you briefly explain how an online platform for game-based learning would most likely help you to integrate gamified approaches to teaching and learning? (hint: you can refer to gamified scenarios and lesson plans, pedagogical strategies, mini-games, best practices etc).

Question 5: What kind of best practices and content would you be interested in accessing and retrieving via the gamified platform? (hint: game elements and mechanics (e.g. rules, feedback and progression tools, in-game activities, core in-game learning mechanics entire game-based lesson plans, game-based curriculum, stories from different teachers about their experiences in game-based learning, game-based tutorials)

Question 6: What kind of gamified tools would you be interested in accessing and retrieving via the gamified platform? (hint: links with subject-specific digital games, links with subject-specific analogue games, links for educational mobile / game apps, links for games that train teachers how to teach, links to specific game genres like puzzles, dialogue-based, RPGs etc, links to game elements such as game designs, rules, game-play, mechanics, assets, audio, game goals etc.)

Question 7: Please tell us your first impression about this platform. Could you imagine using it in your own classes and how?

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Project: GATE:VET



3.2 Benchmark to evaluate existing web databases

We have analyzed existing websites providing resources for the teachers regarding game-based learning.

For each identified resource, we have collected the following information for comparison:

- **Brief description** [what is the purpose of the website]
- **Reference** [URL of the website]
- **Target** [who are the target users of the website]
- **Objective** [what is the objective of the website]
- **Language** [what are the languages available]
- **Subscription / registration** [does access require registration and if so, what are the conditions and what is provided]
- **Interaction / Contribution** [is it possible for the user to contribute to the website and if so how]
- **Overview** [additional comments: how the content is organized (Category? Format? Downloadable?) how the users navigate, search, is it possible to bookmark any content, ready to use resources or support and methodology, examples of implementation?]

3.3 Workshops to define mobile app usage

We have prepared and animated 3 workshops in order to have a better understanding of the features required and the user journey with the system.

For each workshop preparation, we have identified:

- The **intentions** of the workshop (why do we do this workshop)
- The **deliveries** of the workshop (what we will produce during the workshop, what we will have at the end of the workshop)
- The **follow-up** of the workshop (what will happen after the workshop, what are the next milestones)
- The **success criteria** of the workshop (how can we determine that the workshop was useful or not)

With this information, we have built the structure of the workshop, with all the exercises and the time required for each of them.

4 REQUIREMENTS

4.1 Interviews results and definition of the content requirements

We present the outcomes of the interviews thematised and presented in themes and sub-themes grouping the different inferences highlighted by the participants.

4.1.1 Meanings of game-based learning

Understandings, experiences and meanings of game-based learning sought to reflect teachers' unique ways of perceiving and using game-based learning in their own teaching practice. Game-based learning therefore was experienced as:

Helping students to register and retain knowledge into memory: It was perceived that game-based learning can help students memorise and retain knowledge and content-knowledge in more engaging ways *"Students can remember things better. For example, monopoly is a game that can help students memorise and retain knowledge"* (Teacher 3). Quizzes and memory games were perceived as types of games that may help students to retain concepts and facts: *"Quizzes and memory games used in math class – used for evaluating the course modules and the students"* (Teacher 10).

Helping students to gain improved understanding of the topic: In this sub-theme, game-based learning was conceived as using actual games for *"gaining improved understandings of certain learning situations"* (Teacher 1) *"Breaking up from pure theory, not just conveying knowledge"* (Teacher 2). Applications of game-based interventions included the use of 'flashcards' for helping students to understand how theoretical concepts apply to practice. *"It can help you understand the material you are working with"* (Teacher 9). Understanding of concepts felt that can be instigated through applying theory via playing a game: *"I mainly use games as comprehension exercises – I first go through the theory, and then the students can play through it instead of doing a boring theory assessment"* (Teacher 10). *"Through games and a more entertaining context, it can be an opportunity for the students to better understand and grasp the subject"* (Teacher 12). *"A game or a live scenario featuring George Washington, Benjamin Franklin or Thomas Jefferson would help students understand their role in the events that forever shaped the American history"* (Teacher, 17).

Helping students to develop creative mindsets: Soft skills not necessarily related to subject content were perceived as skills that may be attained through game-based learning: *"I would like to see how games can be used to improve social and other skills like creative thinking skills, empathy, problem-solving etc"* (Teacher 7).

Attaining an in-game learning goal: Game-based learning was correlated with a learning outcome or goal that the student / player needs to achieve. A trial and error approach perceived to be an approach for assessing whether the in-game goal has been addressed especially for ill-defined problems. *"Forming opinions"* (Teacher 2) and aligning in-game objectives felt as important for encouraging the design of in-game learning goals tied to in-game learning activities. Achieving in-game learning goals was also increasingly correlated with being an autonomous learner and *"assessing themselves and making success [or failure] visible"* (Teacher 5). However, it was felt that there is no much time for teachers to attach a learning goal into an existing game due to teaching workload: *"Lack of time (for preparation and implementation of game ideas) is the biggest challenge"* (Teacher 3).

Developing a sense of constructive competition: Game-based learning was seen as a medium for competitive learning processes that would create feelings of self-esteem, self-motivation and self-development. Using game rules and *“a rough structure within a games competition”* (Teacher 6) students could potentially exert their best learning performance. Learning is sought to be realized through peer-work: *“groups correct each other after group-work with measurably better results because of game competition”* (Teacher 6). Constructive competition was also perceived as linking student's actions (Teacher 2) with direct consequences to their performance in relation to how other students have performed. Role-playing games were viewed as a genre that foster competition as *“students argue and compete based on the skills and attributes assigned to their roles”* (Teacher 4). Competition may also create conflict and this is something that it is not desirable from the teacher's perspective and could be replaced by reflection and critical thinking: *“The challenge with games is that it often becomes a competition, which I have mixed feelings about, because it creates a lot of energy, and I like it, but it can also intimidate some students. I don't really want my lessons to be competition-like, I would like to use games that trigger more reflection and analytical thinking than competitiveness”* (Teacher 14).

Deconstructing subject knowledge to associated learning domains: game-based learning is inextricably linked to subject knowledge hence specific types or game genres are most likely to be used by specific disciplines: *“Didactically games also function as small “breaks” – role playing, class debates and such usually doesn't fit into a science class as there's usually only one correct answer, so it's easier to find quiz-based games that can help evaluate them”* (Teacher 10). Minecraft was perceived as a tool for learning how to scale a model: *“I asked the students to find buildings or other structures that they then had to replicate in a scale that made sense in Minecraft. That way, the students are motivated to do the calculations, so that the sooner they're done with them, the sooner they can play the game.”* (Teacher 12). *“Subject-specific digital games could improve the teaching process when it comes to lessons such as World Wars, the Cold War or the decay of the Soviet Union”* (Teacher 17).

Learning becomes fun: Game-based learning viewed as a fun-activity that can help student to learn while enjoying themselves. *“Learning becomes entertaining and the students forget that they're learning”* (Teacher 12). Having a good time” (Teacher 2) while playing felt it may increase motivation for attaining learning.

4.1.2 Meanings of the gamified platform as a tool for improving teaching

Teachers had diverse views on how the envisaged gamified platform would be a supportive installation in developing their teaching practice. In particular, teachers sought to understand the gamified platform as:

a gamified medium easy to use for searching, organizing and retrieving content: An essential aspect of the platform is to be able to provide gamified learning content effortlessly: *“Finding content easily without having to search for a long time”* (Teacher 2) *“Such a platform has the potential to save me a lot of time and energy taken up in the process of looking for teaching ideas on the Web”*. (Teacher 7). Being able to convert analogue to digital content was also key for teachers to share gamified content that they use in class with others via the platform: *“simplification of content conversion (from analogue to digital) would be important”* (Teacher 3). Search function, simple syntax, content ratings, best top 3 resources, favorites and a bookmark section was also key for users to navigate and search: *“ Ideas explained briefly and easily, Time indication, Intuitive, simple, search function with bookmark list, results concerning all subjects are displayed display Top 3 somewhere - for example per school year or subject), favorites/ bookmarks,*

specification of the age group" (Teacher 4). Gamified content should be organized according to subject (maths, history, game genre (strategy, repetition, role playing, action, student level and perceived difficulty: *"sorting games according to different levels of difficulty, subject area, time to prepare and play"* (Teacher 6). *"If the content available is well-organized into relevant categories (per topics, length of activity, grade, level of complexity or of materials needed) it tremendously eases my efforts of implementing games in my teaching"* (Teacher 7). *"It's sorted in levels and subjects, so there's biology, geography, physics and math"* (Teacher 10). *"Kahoot is for example a competition and repetition game, while other games give other possibilities"* (Teacher 8).

a gamified medium that accommodates the needs both for teachers and students: Different versions for teachers and students that would be consistent, related and connected: *"Teacher and student version different, but also simultaneous synchronization"* (Teacher 8). *"It would be nice if the students could use it as well. Being able to lock certain things for the students and have other things available for them to create or participate in"* (Teacher 14).

a gamified medium for practice-based teaching: The gamified content should be organized and represented in a way that both reflects the theoretical aspects and practical applications in teaching: *"interlinking theory into practice: if it is gamified content it needs to present the subject and its theory and then instructions on how to use in the class"*. (Teacher 6). Varied teaching practices were also mentioned as a way to enhance practice-based teaching. For example, providing *"providing suggestions, variability /adaptability for different and multidisciplinary topics"* (Teacher 5). Practice-based teaching felt that needed to be connected with specific topics encompassing limited types of games: *"instead of covering too large an area, for example just one subject or type of game that would be easily adoptable"* (Teacher 2). Practice-based teaching was also associated with having access to both digital and analogue games: *"if I could access both online educational games (which I can use as homework for example) as well as outlines of analogue games which require minimum of preparation and materials would be great for my practice-based approach to teaching"* (Teacher 7).

4.1.3 Meanings on best practices and gamified content to be accessible from the gamified platform

A gamified tool for amplifying teaching and learning would ideally provide the tools for teachers to use, re-use, share and repurpose best practices and content that could be adapted to different teaching contexts. As such, meanings of finding, retrieving and sharing best practices of using game-based learning were thought of as:

Creating a community of game-based learning: A community-based structure for teachers to learn, share and provide feedback for using game-based learning resembling processes and practices defined from and instantiated by the community: *"possibility for communication, incentives to give feedback and ratings as a reward system"* (Teacher 2) for impactful content. Specific games as best practices in subject areas *"Quizlet, specific content for accounting"* (Teacher 4), case studies, videos, games, video links with easy to use instructions *"How can students use this without the teacher having to explain a lot"* (Teacher 5). The development of a game-based curriculum was also a community based effort amplifying students' learning: *"This means that the curriculum plays a central role in making game-based education a community-effort and practice rather than an individual one, which would enhance the quality of the results to the benefit of the students "* (Teacher 7). Providing a brief description of the purpose of the game and the learning aspects it covers, may be a preferable way for teachers to find a game relevant to their needs: *"I want to search for specific content, with a detailed description, so that I won't have*

to play the games through to find out if they're useful" (Teacher 10). Getting reviews and comments on gamified content already used is a core aspect of creating a community: "Reviews from other teachers, so that it's easy to get an overview of what level it's relevant for and a checklist of student skill requirements for them to be able to play the game" (Teacher 10).

A diversity of game-based content: Game mechanics such as rules, ranking systems, feedback and assessment systems, in-game core activities, manuals with instructions on how to use the games, their learning objectives and core goals. Lesson plans could also provide a more design-based structure of how the game activity will be planned and orchestrated along with all the other activities: *"lesson plans to explain the context and use of the idea" (Teacher 1). Distinctive labels and categories should be employed into "organized categories to find a game mechanic easily" (Teacher 10) for example. Evaluation and assessment of learning content may be represented and exported for isolating the evaluation of in-game learning from the actual game / gamified process itself: "output evaluation to confirm learning success without having to work through the game..." (Teacher 2). There were games perceived as more meaningful and effective on student's learning having real-world goals and intriguing narrative: "Games that are case-based and that deal with realistic scenarios where they have to make decisions are some of the most difficult to find, but games that they gain a lot from. Games where they have to think about their answers/decisions and not just guess, and where their decisions have consequences" (Teacher 10). Re-using content that has already been used and not rather developing an activity from scratch was perceived as the ideal strategy that the gamified platform should follow: "The content is okay, if I wanted to make activities from scratch myself, but it's rarely what I look for, as it takes too long to prepare" (Teacher 10). Templates for designing games were felt as content to be included in the platform: "it would be great if there were some templates that were very easy to use (Teacher 14).*

Creating a professional development hub for game-based learning: Representing, sharing, reusing / repurposing game-based learning content, processes and activities was central for teacher training on game-based learning from a pedagogical and design oriented to more technical manifestations: *"if the platform featured some videos of teachers using different strategies and approaches it would help me to further develop my teaching competencies in an engaging and achievable way. This is essential since many schools here do not invest in continuous teacher development and doing all on your own is simply too costly in terms of time and money" (Teacher 7). The aspect of sharing the gamified content and relevant game-based design were also mentioned as means to improve the quality of applying the shared resources to teaching practice: "it could also make my work easier if other teachers have shared some of their experiences and using the content, which would also increase the quality of my application of that content"(Teacher 8). Gamified best practices and tools for professional development would also be central for teachers professional learning: "tools or content which aims at improving application of game-based education would interest me" (Teacher 7). Game-based learning applications in the form of sharing stories of designing and implementing game-based learning was important: "Stories from teachers are definitely preferred. I would rather hear from the people who have used it" (Teacher 12).*

Developing a game-based curriculum as part of professional development in game-based learning: The creation of a game-based curriculum felt to be important for acknowledging the effectiveness and impact of the approach as well as allocating the necessary time for carrying-out game-based tasks: *"it acknowledges the role and importance of the approach and allocates time for it, which is absent at moment, meaning that using games in lessons takes up a lot of time which is already planned for other things" (Teacher 8). Connections of the curriculum with gamified content was apparent and highlighted: "it must provide clear, constructive, easy-to-implement*

guidelines for teachers and must integrate meaningful and relevant content while focusing on developing important skills and attitudes in students and teachers alike.” (Teacher 7).

Views on alpha prototype: The portfolio feature seemed to be quite interesting for the teachers: *“The portfolio and course overview is something useful indeed for storing and recording your work”* (Teacher 12). There were some arguments with regards to the interface and overall functionality, but this is logical considering that this is just a first prototype: *“The website on an overall level is messy and difficult to navigate through”* (Teacher 11). Others felt that there should be certain improvements on how the games should be organized: *“The Portfolio overview is very confusing, because the activities have creative names that unfortunately don’t say anything about what it entails. I would have liked that there was a “folder”, where they first had grouped the games”* (Teacher 12). Testimonials should not be part of the activity: *“I would like for the testimonials to be a part of the activity page, so that I don’t have to spend a lot of time linking the testimonials and games”*. (Teacher 12). A more general list of interesting articles and posts on game-based learning rather on research would be more preferable: *I don’t think I’ll be reading research articles about the specific games. “I would perhaps read general articles about the impact that games have on learning.”* (Teacher 11). Activities should be like a short format so that they can be determined whether they are relevant. *“The activity pdf should be more in a bullet point format so that you quickly can assess whether it’s relevant and/or doable”* (Teacher 12). The website did not feel as relevant as the portfolio, with templates to design own games: *“I would have wanted an extra step, where there was a template that you could fill questions for the escape room into (so that one riddle leads to another), and maybe also a concrete example”* (Teacher 16).

4.1.4 Summary of interview

The findings from the teachers’ views on using a platform for accessing, finding and retrieving resources and content for designing, planning and employing game-based learning that they are aware of the benefits of using a game-based learning approach, but the workload is an issue, the platform should then be helpful and bring them support to implement such a strategy. In line with this, the teachers indicate that they are willing the content to be well organized.

They are also expecting ready-to-use games, which means that, in addition to the content we want to provide relating to the method of game-based learning”, we also have to collect games that the teachers can implement easily.

A way to facilitate the use is linked to the feedback and comment of other teachers that have previously used the resources. This connects to the idea of the Community.

These results give us some relevant guidelines for content collection and organization.

4.2 Benchmark results and definition of the web database requirements

4.2.1 Examples of existing resources

GATE:VET’s objective is to provide teachers with resources to support the use of games in the classroom.

To this aim, one of the project outcomes will consist of a **PLATFORM** comprising:

- An online **DATABASE** about games, examples of use and good practices
- **TEEMEW**, a mobile application with gamified activities for the teachers to learn about use of games at school

We provide hereafter examples of existing online databases (including free and paid resources).

STEAM serious game

▪ Brief description

An online game for teachers to learn about multimodality and how to use it with the students.

▪ Reference

<http://lamp.manzalab.com/serious-games/steam/Final/>

▪ Target

Teachers and parents

▪ Objective

Develop a more student-centered approach and support the engagement of the students.

▪ Language

English, French, German, Danish, Finnish

▪ Subscription / registration

N/A, access is free and open

▪ Interaction / Contribution:

The users can browse the cards, make combinations

The users can play the game

▪ Overview

The platform is based on cards, and comprises 3 categories of cards:

1. Strategies
2. Tools
3. Locations

An activity is defined by a combination of 3 cards, one from each category.

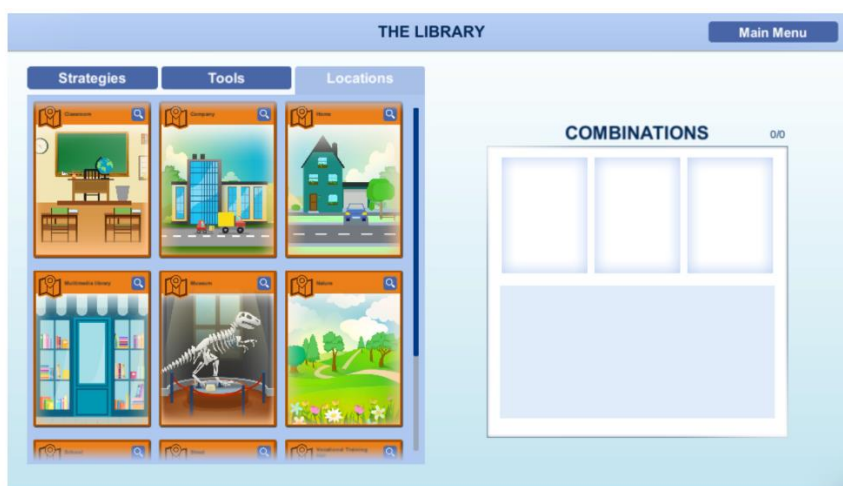
The platform offers:

- a **game section**
- a **library section** with description of activities that can be implemented with the students

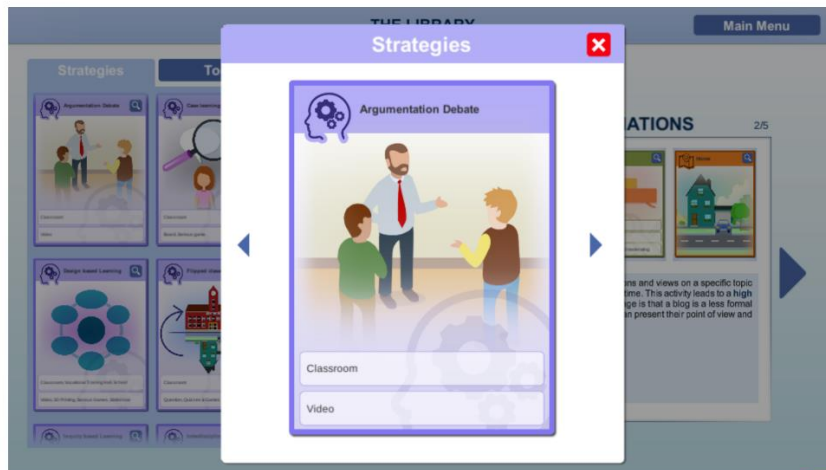


Visit the library section:

- > You can browse the cards in each category



> You can zoom in a card of interest



> And you can have examples of combination with this card to create activities



Futurum careers - Activity sheets

▪ Brief description

Online resources for teachers and parents to promote STEM / STEAMM and careers in these fields. Examples of researchers and their profiles.

▪ Reference

<https://futurumcareers.com/>

▪ Target

Teachers and parents

▪ Objective

Promote STEM / STEAMM toward young people

▪ Language

English

▪ Subscription / registration

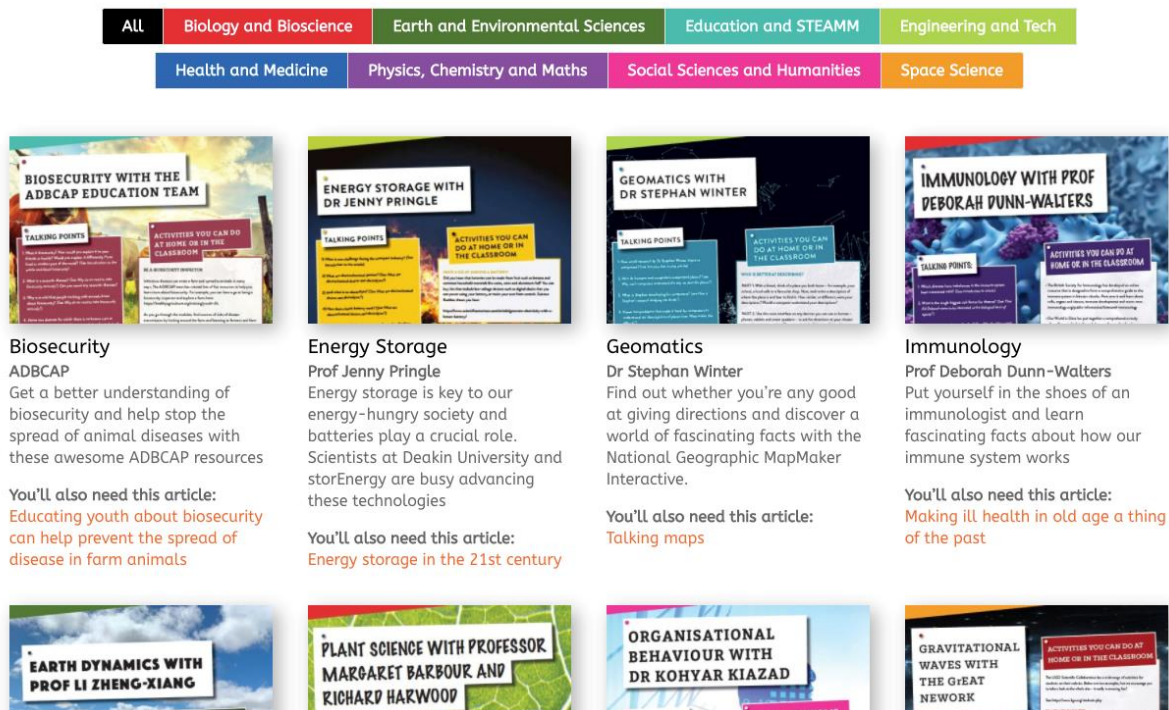
Visitors can register, members receive newsletters, articles, career resources

▪ Interaction / Contribution:

The website includes a blog where visitors can submit comments

▪ Overview

Users can navigate through activity sheets filtered by subjects



The screenshot displays a website interface for 'Futurum careers'. At the top, there is a horizontal navigation bar with color-coded buttons for different subjects: ALL (black), Biology and Bioscience (red), Earth and Environmental Sciences (green), Education and STEAMM (teal), Engineering and Tech (light green), Health and Medicine (blue), Physics, Chemistry and Maths (purple), Social Sciences and Humanities (pink), and Space Science (orange). Below this bar, a grid of activity sheet thumbnails is shown. Each thumbnail features a title, a researcher's name, and a brief description. The visible thumbnails include: 'Biosecurity with the ADBCAP Education Team' (Dr Jenny Pringle), 'Energy Storage with Dr Jenny Pringle', 'Geomatics with Dr Stephan Winter', 'Immunology with Prof Deborah Dunn-Walters', 'Earth Dynamics with Prof Li Zheng-Xiang', 'Plant Science with Professor Margaret Barbour and Richard Harwood', 'Organisational Behaviour with Dr Kohyar Kiazad', and 'Gravitational Waves with The Great Network'. Below each thumbnail, there is a short paragraph summarizing the activity and a link to a related article.

Biosecurity
ADBCAP
Get a better understanding of biosecurity and help stop the spread of animal diseases with these awesome ADBCAP resources
You'll also need this article: [Educating youth about biosecurity can help prevent the spread of disease in farm animals](#)

Energy Storage
Prof Jenny Pringle
Energy storage is key to our energy-hungry society and batteries play a crucial role. Scientists at Deakin University and storEnergy are busy advancing these technologies
You'll also need this article: [Energy storage in the 21st century](#)

Geomatics
Dr Stephan Winter
Find out whether you're any good at giving directions and discover a world of fascinating facts with the National Geographic MapMaker Interactive.
You'll also need this article: [Talking maps](#)

Immunology
Prof Deborah Dunn-Walters
Put yourself in the shoes of an immunologist and learn fascinating facts about how our immune system works
You'll also need this article: [Making ill health in old age a thing of the past](#)

Earth Dynamics
Prof Li Zheng-Xiang

Plant Science
Professor Margaret Barbour and Richard Harwood

Organisational Behaviour
Dr Kohyar Kiazad

Gravitational Waves
The Great Network

<https://futurumcareers.com/resources>

The activity sheet can be downloaded, it typically provides:

Deliverable: <1.1>
IO: <1>
Project: GATE:VET



- **“talking points” section:** questions and topics that can be raised with the students to investigate, discover, with tips to find information
- **“activities you can do at home or in the classroom” section:**
<https://futurumcareers.com/Margaret-Barbour-activity%20sheet.pdf>

Discovery Education Network

- **Brief description**

Trusted by educators for over a decade, the DEN Community offers you one of the most thriving professional learning network in the world. The DEN connects you to teaching resources, learning opportunities, and professional networking—all at your convenience and comfort level.

- **Reference**

<https://www.discoveryeducation.com/community/den-community/>
(from <https://www.tckpublishing.com/online-resources-for-teachers/>)

- **Target**

Educators

- **Objective**

Connecting educators to each other

- **Language**

English

- **Subscription / registration**

Subscribe and Pay to Access to the resources

- **Interaction / Contribution:**

Chat request

- **Overview**

E.g.: EXPERIENCE

<https://www.discoveryeducation.com/solutions/experience/>

Blog

<http://blog.discoveryeducation.com/>

Research

<https://www.discoveryeducation.com/research/>

Statistics from organizations that use Discovery Education resources

Success stories

<https://www.discoveryeducation.com/success-stories/>

Success stories from organizations that use Discovery Education resources

Gamified UK

- **Brief description**

Gamified UK is my blog all about gamification and a few other things that interest me. My name is Andrzej Marczewski, nice to meet you!

- **Reference**

<https://www.gamified.uk/>

- **Target**

General audience with interest in gamification, i.e. the use of game design, game elements and play for non-entertainment purposes. Including Education target but not only.

- **Objective**

Share information, opinion and analysis about gamification

- **Language**

English

- **Subscription / registration**

Free access. Possibility to register to leave comment on blog articles.

- **Interaction / Contribution:**

Filter articles according to 12 predefined categories, including "Education"
Possibility to comment on blog article

- **Overview**

The author publishes articles (once a week – a month) on various topics relating to gamification.

One category is dedicated to Education

<https://www.gamified.uk/category/education-2/>

Framework for gamification, brings together Player Types and Game Elements

<https://www.gamified.uk/user-types/>

You-Kai Chou: Gamification and Behavioural design

- **Brief description**

Website providing information about gamification and behavioural design.

- **Reference**

<https://yukaichou.com/>

- **Target**

Anyone

- **Objective**

Learn how to make a positive impact on your work and life.

- **Language**

English

- **Subscription / registration**

Free access to some resources and article
Visitors can buy Educational products

- **Interaction / Contribution:**

Contact form
Search tool for blog (no comment)

- **Overview**

Gamification Examples
<https://yukaichou.com/gamification-examples/>

Framework for gamification

<https://yukaichou.com/gamification-examples/octalysis-complete-gamification-framework/>

A blog with a search tool

Example search with "school"

<https://yukaichou.com/education-gamification/five-educational-games-you-wish-you-played-in-school/>

NSTA

- **Brief description**

Website of the National Science Teaching Association (US)

- **Reference**

<https://www.nsta.org/>

(from <https://www.tckpublishing.com/online-resources-for-teachers/>)

- **Target**

Teachers

- **Objective**

Promote science teaching

- **Language**

English

- **Subscription / registration**

Membership (example: discount on conferences)

- **Interaction / Contribution:**

Search tool

- **Overview**

Present all the activities of the association, lists of books, resources, conferences, podcast...

Classroom resources:

<https://ngss.nsta.org/Classroom-Resources.aspx>

Free resources:

<https://www.nsta.org/publications/freebies.aspx>

Example: Foldit Protein Design Game

<http://fold.it/portal/>

Online Writing Lab – Purdue University

- **Brief description**

Website of the Online Writing Lab, from the College of Liberal Arts of Purdue University (US)

- **Reference**

https://owl.purdue.edu/owl/purdue_owl.html

(from <https://www.tckpublishing.com/online-resources-for-teachers/>)

- **Target**

Anyone

- **Objective**

The Online Writing Lab (OWL) at Purdue University houses writing resources and instructional material, and we provide these as a free service of the Writing Lab at Purdue. Students, members of the community, and users worldwide will find information to assist with many writing projects. Teachers and trainers may use this material for in-class and out-of-class instruction.

- **Language**

English

- **Subscription / registration**

N/A

- **Interaction / Contribution:**

Search tool, contact form

- **Overview**

Exercises

https://owl.purdue.edu/owl_exercises/index.html

Example of Grammar exercise

https://owl.purdue.edu/owl_exercises/grammar_exercises/adjective_or_adverb/adjective_or_adverb_exercise_1.html

Video

https://www.youtube.com/user/OWLPurdue/videos?view=50&shelf_id=8&sort=dd&_ga=2.198686571.515042100.1574844458-188222308.1574844458

Example of video “Rhetoric: Essentials of Argument”

<https://www.youtube.com/watch?v=KdE862C9YOI>

4.2.2 Synthesis

We have mostly found resources in English, which is a bias from the search tools. However, we can see that almost known of these websites exist in several languages. And when another language is proposed, not all the content is translated.

- **Target**

Targets includes teachers from various fields as well as parents.

- **Objective**

Objectives are wide, from providing specific resources for a particular subject (e.g. writing) or providing methods and information (eg: about game-based learning).

- **Language**

The websites that were analyzed were mostly in English, as a consequence of the search method. However, almost none were available in several languages and when it was the case, not all the content was translated.

- **Subscription / registration**

Some websites were totally open without any registration or subscription.

Some websites allow comment and contribution from users, upon registration / account creation

Some websites were marketing platform to sell services and content to schools and required subscription.

- **Interaction / Contribution:**

Most frequent interactions were “search tool”

Some rich platform included tree architecture to facilitate the browsing.

Some offered the possibility to comment or contribute (through registration)

Some offered “contact form” to ask question to the administrator.

4.3 Workshop results and definition of the mobile application requirements

We have organized 3 workshops to define the features that we need to develop to meet the project's requirements and make the mobile application evolve in the right direction. Hereafter is a summary of the results.

4.3.1 User's Journey for the mobile application

A persona in [user-centered design](#) is a fictional character created to represent a user type that might use a site, brand, or product in a similar way.



Personas are useful in considering the **goals, desires, and limitations** of users in order to help to guide decisions about a service, product or interaction space such as features, interactions, and visual design of a system.

Do not forget that a user persona is a representation of the goals and behaviour of a **hypothesized** group of users.

For the project, we have created a persona called Jo. Jo is a representation of the goals and behavior of the users who will use the Teemew application.

Those users are teachers who want to use GBL in order to improve their courses.

Figure 4. Persona

A User Journey map is a visualization of a user's relationships with a system over time and across different channels.

While user journey maps come in all shapes and formats, commonly it's represented as a timeline of all touch points between a user and a system. This timeline contains information about all channels that users use to interact with a system.

It allows designers to see a system from a user's point of view and to understand the user behaviour: how users are going to interact with the system and what they expect from it?

It also helps designers to identify possible features at high level: by understanding the key tasks the users will want to do, it helps to understand what sort of functional requirements will help the users in those tasks.

The following User Journey describes how Jo, a user of the project's platform, will use the Teemew application in order to find a content that will help him implement GBL for his courses.



Figure 5. User journey of a teacher on the application Teemew Mobile

4.4 Evolution of features of the mobile application

4.4.1 Tags and filters

We have identified 4 categories to organize the platform's information:

- 1- GBL (Game-Based Learning) Examples and Best Practices
- 2- Gamification Mechanics & Elements
- 3- Tools
- 4- Dissemination & Networking

Based on this preliminary classification, we have worked on the possible tags and filters that could be used to search and navigate through the content.

We have decided that the Dissemination & Networking category should not be considered as a tag or filter, since it can lead to confusion. We can show this sort of information in another section of the web portal such as "Interesting links".

We have discussed the relevance of "subject" tags and concluded that they should not be proposed because they will limit the search results. We should stick to universal subjects and always suggests other options when a search gives 0 results.

We have also agreed upon the creation of additional tags and filters to indicate:

- Whether the activity is collaborative or non-collaborative.
- The time spent in the classroom to carry out the activity. Suggested possibilities: 5 minutes, 15 minutes, 60 minutes.
- The amount of preparation the activity needs in terms of the degree of effort. Suggested possibilities: low effort, medium effort, high effort.
- The Analog/Digital distinction present in the Best Practices category should also be applied to the Mechanics category.
- The learning goal present in the Best Practices category should also be applied to the Tools category.

You will find below a chart with the tags and filters defined so far:

GBL Examples and Best practices	Gamification Mechanics and Elements	Tools
Nature	Nature	Goal of Tool
- <i>Analog</i>	- <i>Analog</i>	- <i>Repetition</i>
- <i>Digital</i>	- <i>Digital</i>	- <i>Acquiring new knowledge</i>
Target group	Target group	- <i>Putting knowledge into practice</i>
Goal of learning activity	Goal of Mechanic	Description
- <i>Repetition</i>	- <i>Repetition</i>	Source
- <i>Acquiring new knowledge</i>	- <i>Acquiring new knowledge</i>	
- <i>Putting knowledge into practice</i>	- <i>Putting knowledge into practice</i>	
Type of learning activity	Description	

- Collaborative	Source	
- Non-collaborative		
Subject		
Number of players		
- Single		
- Small group (2-4)		
- Medium group (5-12)		
- Whole class		
Description		
Duration in classroom		
- 5 minutes		
- 15 minutes		
- 60 minutes		
Degree of preparation		
- Low effort		
- Medium effort		
- High effort		
Source		

Table 1. Tags and filters per theme

4.4.2 Search bar

We have determined that the bar should present the possibility of advance search with filters based on the tags defined so far as well as the automatic fill-in option as we write an entry.

The automatic fill-in option should not be restrained by the order of words allowing a whole search string searchable.

We should avoid the 0 results searches and always propose alternatives as well as keeping the history of searches.

Since the content collection is still in progress, it is too early to give further specifications.

4.4.3 Rating

We have identified 2 levels of rating:

- Individual: A bookmark system which allows to add contents to your Favorites.
- Social: The preferred rating system is the five stars method. One star means insufficient and 5 stars means very useful. We let the user define the meaning of the intermediate stars.

Comments will only be available on the web portal and will require login in order to avoid all sorts of spam. We should define the number of characters for the comments so that they are not too long.

We could also question the user in order to know whether the information provided was helpful (like or not like).

5 SPECIFICATIONS

5.1 Web data base

We consider two web access:

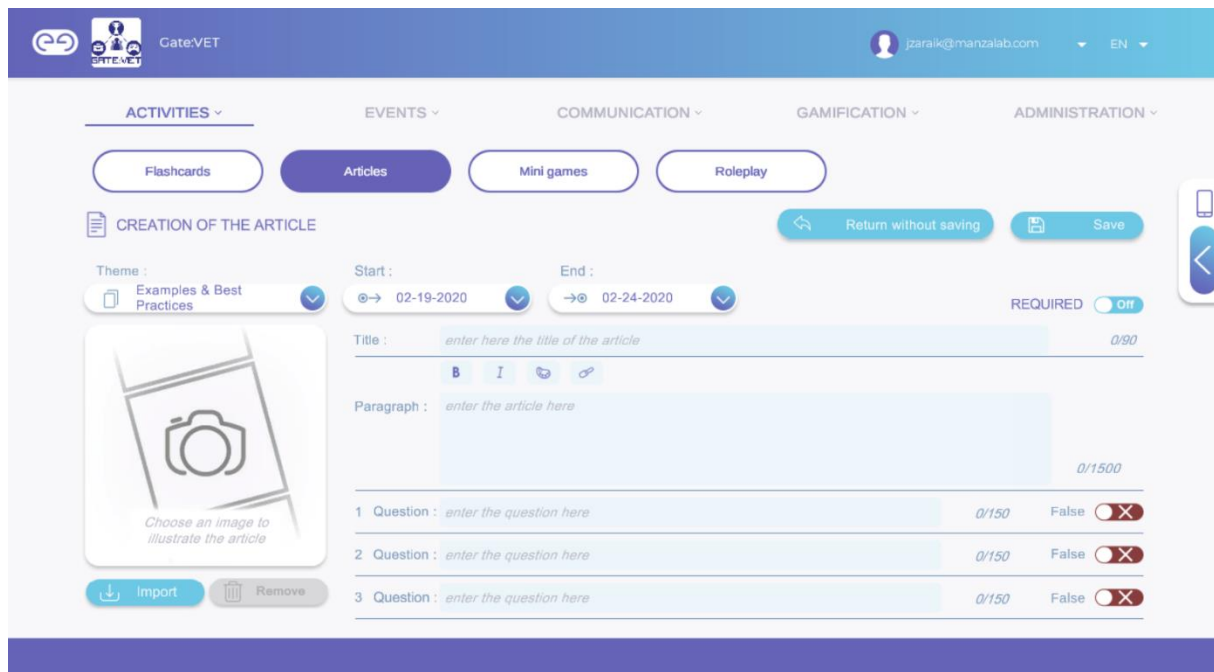
- Web version of the mobile application (through a WebGL interface): users can play the games and go through the articles. However, this is not “web content” as it is not indexed in the web search tools.
- The web database: traditional website which can be found from an online search tool

The mobile app (+ WebGL version) offers links to the web database.

The web database is a library of content, for instance, longer, richer than the articles found on the mobile app.

We consider the use of only one data base for both the web database and the application. The content creation should then be managed with the same CMS (content management system).

Below is a current view of Teemew’s CMS for the creation of an article. In the proposed evolution, when creating an article (educational sheet) on the CMS, the user should be able to fill in a short version for mobile and a long one for the website, through the addition of a dedicated field.



The screenshot shows the 'Gate:VET' CMS interface. At the top, there's a navigation bar with 'Gate:VET' and a user profile 'jzaraki@manzalab.com'. Below this, there are tabs for 'ACTIVITIES', 'EVENTS', 'COMMUNICATION', 'GAMIFICATION', and 'ADMINISTRATION'. Under 'ACTIVITIES', there are buttons for 'Flashcards', 'Articles' (selected), 'Mini games', and 'Roleplay'. The main section is titled 'CREATION OF THE ARTICLE'. It includes a 'Theme' dropdown set to 'Examples & Best Practices', 'Start' and 'End' date pickers set to '02-19-2020' and '02-24-2020' respectively, and a 'REQUIRED' toggle set to 'off'. There are 'Return without saving' and 'Save' buttons. The article content area has a 'Title' field, a 'Paragraph' field, and a 'Choose an image to illustrate the article' section with an 'Import' button. Below the paragraph field, there are three 'Question' fields, each with a '0/150' character count and a 'False' status indicator.

5.2 Mobile application

Teemew mobile application is currently available on iOS & Android Compatible and available on web browser through a WebGL version.

A toolbox that offers lessons, training courses, mini games, flashcards, and a leaderboard. A combination of learning resources that cover pedagogical objectives, organized in “themes”. In the Gate:VET example below, you will find 3 themes: Examples & Best Practices, Game Mechanics and Tools.

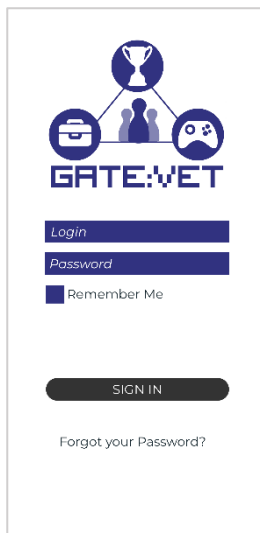
First sections are shown in the current version:

- Login
- Homepage
- Notifications
- Gamification and leaderboard
- Content: flashcards
- Content: minigames
- Content: communication

Last sections are shown as they could be after evolution/creation:

- Search tool
- Rating tool
- Bookmark

5.2.1 LOGIN



This section allows the user to connect to the application providing his/her identification e-mail and password.

It also offers the possibility to create an account for new users, without any restrictions or need for invitation or validation.

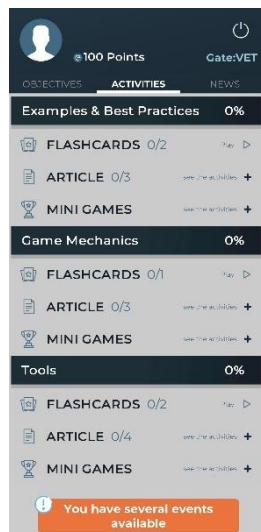
Deliverable: <1.1>
IO: <1>
Project: GATE:VET



5.2.2 HOME PAGE



This section offers a selection of recommended contents for every user thanks to an algorithm.



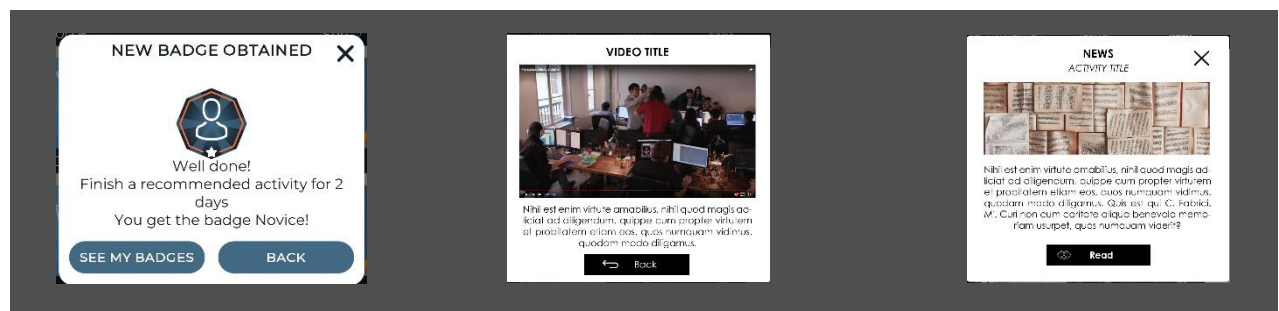
This section gives you access to all the contents (video clips, games, flashcards, articles, etc.). It also shows the level of progression for every theme.



This section presents the last articles, news or video clips published.

5.2.3 NOTIFICATIONS

Some notifications will appear on the application in order to inform users of a completion, an achievement or a new important content.

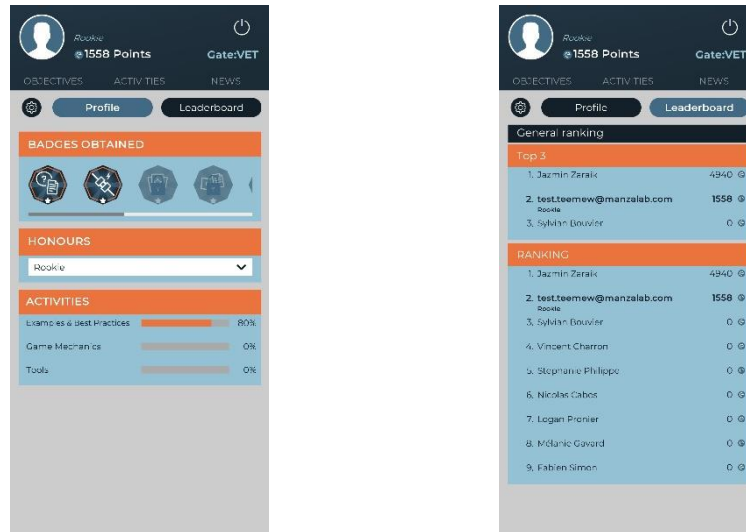


According to your activity and your progression on TEEMEW Mobile, you can win some badges and distinctions.

Important information, articles or video clips that users must read can also be proposed as notifications.

5.2.4 GAMIFICATION AND LEADERBOARD

Every user can access their own profile with their score, badges and distinctions. Every theme's progression can be followed on the leaderboards.



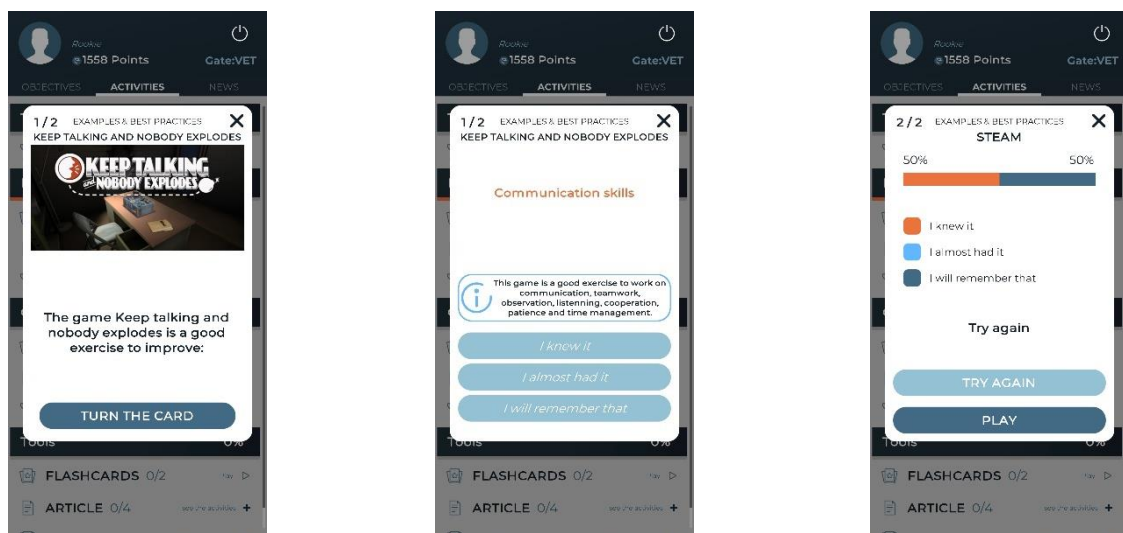
5.2.5 CONTENT: FLASHCARDS

Cards system: information, evaluation, self-evaluation.

Objectives:

- To provide educational or process information
- To test information retention
- To let you self-evaluate

FLASHCARDS - TRAINING:



Questions on any type of knowledge.

The answer is given, and the user can self-evaluate.

After a number of cards, an evaluation is given.

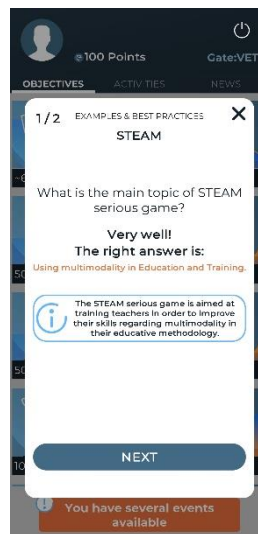
Deliverable: <1.1>
IO: <1>
Project: GATE:VET



FLASHCARDS - EVALUATION:



A multiple-choice questionnaire is proposed based on the previous self-evaluation.



The result is given after every flashcard, then the user can move on to the next one.



After a number of cards, a test evaluation is given. Points are earned according to the number of good answers.

5.2.6 CONTENT: MINI GAMES

Mini games system: attractive, impacting and addictive.

Objectives:

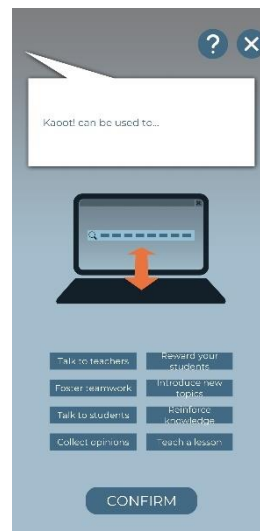
- To teach students through easy-access games
- To infuse messages and information through lively mechanisms



« Memory »



« Vocabulary »



« Word Research »



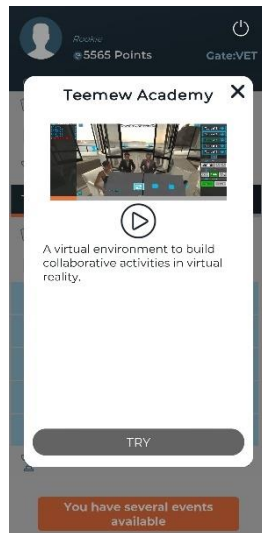
« Slide »

5.2.7 CONTENT: COMMUNICATION TOOLS

Simple communication system: articles, video clips and quizzes.

Objectives:

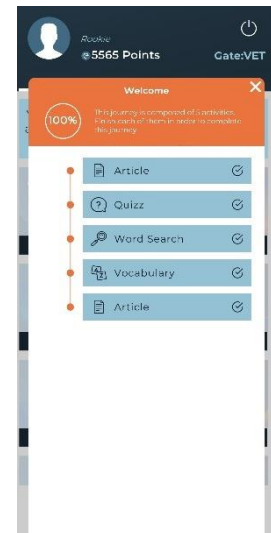
- To inform users massively and simply
- A question or a mini quiz can be added after the communication to test users



Video clips



Articles including links to other websites



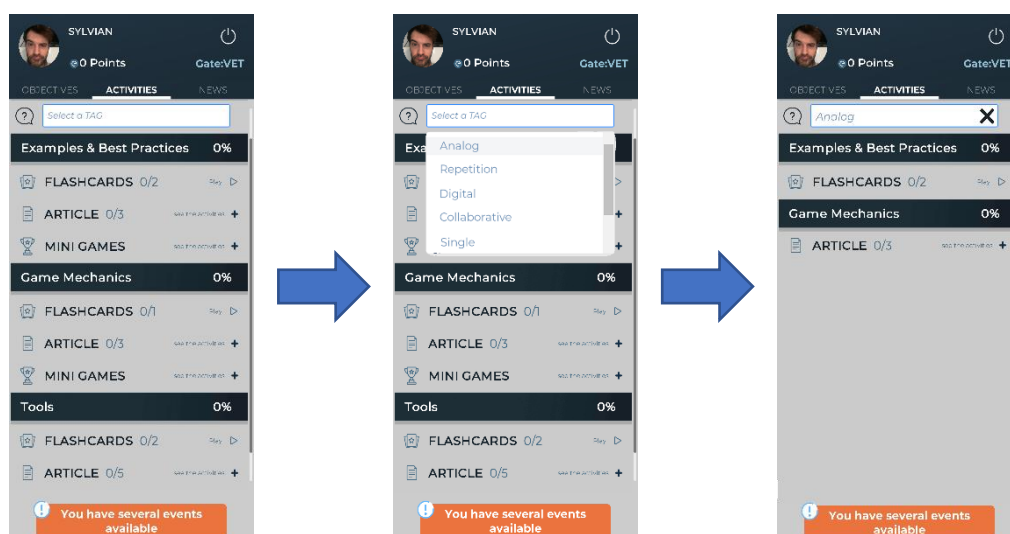
Evaluation Quizzes

5.2.8 SEARCH

We are planning to introduce a general search bar on every screen of the application in order to be able to search all types of content.

Considering that free search can lead to frustration, we will use the predefined tags as key words to guide the user in the form of a dropdown menu.

These same tags will help us build the filters' hierarchy for an advanced search.



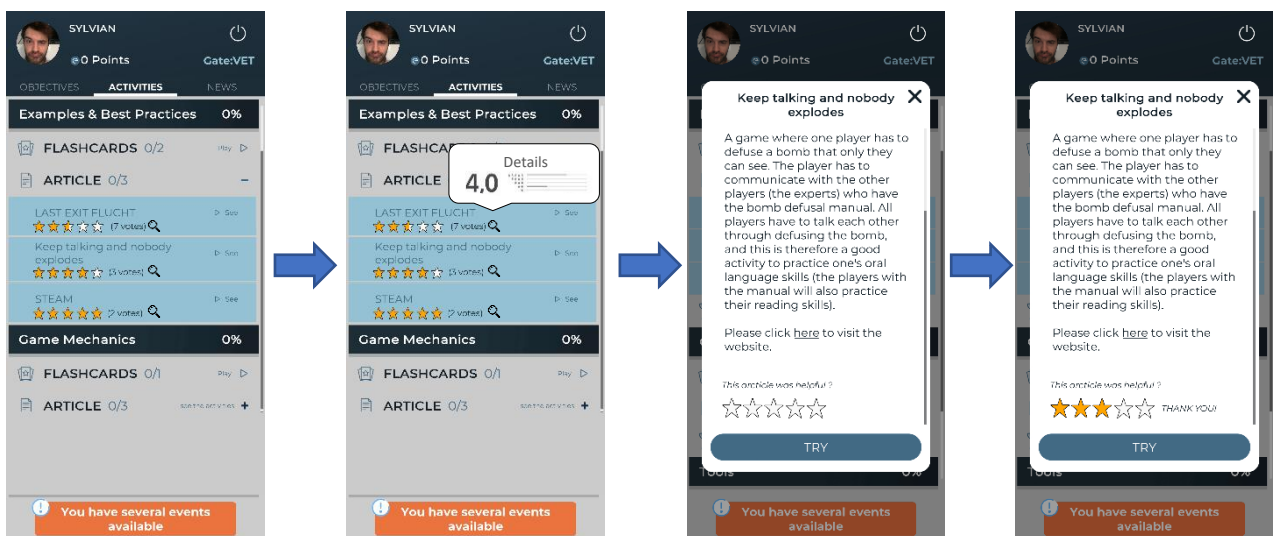
5.2.9 RATING

We envisage to apply a 5-star rating option on all contents, except for flashcards and quizzes which are drawn randomly or temporarily.

The rating will appear on the content list as well as on search results, showing the number of stars and the number of votes. Further details can be obtained by clicking on a magnifying glass icon.

It will also appear on the bottom of the screen for every activity, inviting the user to rate the content with a simple click.

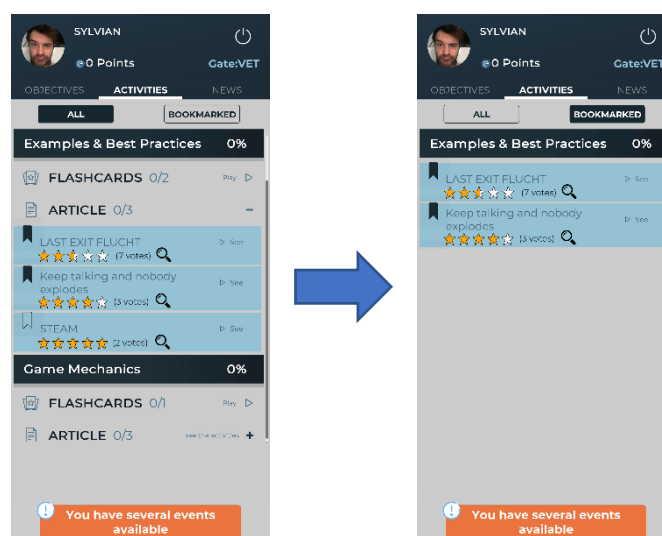
It will not be possible to filter by rate to avoid conflict with the tags system and biased results.



5.2.10 BOOKMARKED

For the individual level of rating, we propose to add a “Bookmarked” screen to the content list.

We need to distinguish between the rating as appreciation from the possibility to easily find an specific content to read it later.



6 CONCLUSION AND NEXT STEPS

Taking all these into consideration, the partners have set the basis for the content collection and platform development, however some aspects still need to be specified:

- Regarding the technical aspect, the roadmap is already being implemented to enrich the TEEMEW application with the expected features.
- Regarding the content collection, we have identified the need for revising the categories and precisely defining the information that the users are expecting to find. This will be crucial for both (1) collecting the relevant content and (2) providing the relevant information on the platform.
- Regarding the meanings of game-based learning discerned through the interviews, we have identified themes, processes and ways of understanding the use of an online platform for game-based learning and we have highlighted additional features, components and services that could be added or improving existing architectures. This preliminary outcomes on game-based learning would most likely serve as a basis for disseminating and exploiting the results to game-based learning conferences and scientific papers.

During an online meeting in M6, partners discussed the content structure and its usefulness for the upcoming, more extensive content collection. It was decided that the categories proved already useful but need to be revised and possibly changed and/or completed, based on the results of the initial interviews. In addition, Manzavision pointed out that the tags need to be defined before the content collection.

Thus, the next steps will consist of:

- a) A suggestion on a categorization for the content to be collected based on the results of this deliverable and the initial content collection (to be provided by AFBB in M7).
- b) Adjusting the categories and agreeing on them with all partners (M8).
- c) Creating a template for the content collection in a work session during the transnational project meeting in Romania (M8).
- d) An extensive collection (IO2) to add examples, best practises and tools in all of the defined groups.
- e) Preparing the content for the platform (IO2).

The results of this process will be reported in a description of IO2 in the interim report.

APPENDIX

A. EXCEL SHEETS FOR CONTENT COLLECTION

a) GAMEBASED LEARNING BEST PRACTISES AND EXAMPLES

Collected by	Analogue/digital	Target group	Type/Goal of Learning Activity	Subject	No. of Player(s)	Description	Source
AFBB	digital	Students 13 years and older	Acquiring new knowledge	Social sciences	whole class	getting information about refugees and human rights, developing empathy and understanding of situation and position of refugees	https://www.kiknet-unhcr.org/lernspiel/
FHD	Digital	students	Serious Game	Renewable Energy		Orientation to job in the field of renewable energy	https://serena.thegoodevil.com/projekt/
COVUNI	digital	students / teachers	Authoring tool for designing location-based games	any	co-op	A game authoring environment for teachers and students to design their own games without the need of coding	http://www.magellanproject.eu/experiences.html
VUC Storstrøm	digital	Students	Physical quiz game/Strengthening repetition/reading skills and learning through competition	any	medium group (5-12)	Two teams compete against each other in building bridges to become the first to get to the gold bars. The bars are earned by answering multiple choice-style questions correctly. Questions are prepared by the teacher (or alternatively the students).	https://activefloor.com/en/frontpage/
VUC Storstrøm	analogue	Students	Board game/strengthening vocabulary and grammar skills	Danish (or other) as a second language	small group (2-4)	Players get around on the board by drawing different activity card and performing the activity.	Vasadu/VUC Storstrøm

Deliverable: <1.1>
 IO: <1>
 Project: GATE:VET



CN Nicu Gane	digital	Students 14 years and older	Acquiring new knowledge	learn to code	whole class	open-world game that promotes creativity, collaboration, and problem-solving in an immersive environment where the only limit is child's imagination	https://education.minecraft.net/
Manzavision	Digital	Business school students	Acquiring new knowledge	Marketing, customer relationship management	whole class	The course starts with a presentation of topic to the whole class, then the students play a serious game in VR individually, then the class collectively share feedback from the game and make links with the theory that has been introduced at the beginning of the class.	Paris School of Business
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b) GAMIFICATION MECHANICS AND ELEMENTS

Collected by	Analogue/digital	Target Group	Goal of Mechanic/Element	Description	Source
AFBB	both	Students (all age groups)	finding the correct technical terms out of mixture of letters	challenge could be: being the fastest, achieving higher levels of complexity etc.	https://lehrerfortbildung-bw.de/u_sprachlit/franzoesisch/bs/6_bg/fb1/5spielerische_methoden/lexik/
FHD	both	Students	get students listening	describing something with a couple of word, but one fact is a fake. Students have to guess which	I do that in my classroom
VUC Storstrøm	digital	Students, e-learning students	Getting students to immerse themselves in and go through course material in a specific order	Locking/unlocking modules in the LMS as if they were levels, making the access to material feel like an achievement	
COVUNI	digital	students	icon-based feedback as progress indicator	A visual feedback mechanic like 'great' 'not too bad' for swift feedback	
CN Nicu Gane	digital	Students	get students reading, writing and listening	Students have to read and write the right answers	https://ro.duolingo.com/placement/en , https://ro.english-attack.com/
Manzavision			Dialogue, Simulation, Serious Game	Immersion into a relevant situation in a professional environment and dialogue with a non-playing character to solve a situation.	Manzalab Serious Game Management of the customer relationship
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c) TOOLS

Collected by	Purpose/Goal	Description	Source
AFBB	Creating puzzles/ word search games	On the website, it is possible to create a word search puzzle, word grid or letter salad and then download the worksheet as a PDF file (worksheet + solution sheet).	https://www.word-search.net/
FHD	Kahoot	<i>Kahoot!</i> brings engagement and fun to more than 1 billion players every year at school, at work, and at home.	https://kahoot.com/schools/how-it-works/
COVUNI	Beaconing	An authoring platform for creating games by Coventry Uni	https://beaconing.eu/downloads/
VUC Storstrøm	Learning combined with physical activity	A platform with game templates that can be customized and used on the Active Floor (a projector, a computer and a Kinect that combined creates an interactive floor area)	https://activefloor.com/en/frontpage/
Manzavision	Developing, iterating, hosting digital games for Universities and Schools	beta, french includes analytics	http://www.ikigai.games/games/gamesList
VUC Storstrøm	Creating minigames (flashcards, polls, escape games, etc.) or presentations.	A platform with game templates	https://www.genial.ly/
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