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Draft for Strategic Content Collection

Preparation of D2.1

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Table of Contents

1. INTRODUCTION

At his point, we will need to decide how the content for the platforms (wiki and app) can be collected. Several factors will be taken into consideration to achieve this: the results of the analysis of platform requirements (D1.1), the content already collected, the needs and purposes related to gamification expressed by the interviewed teachers, and the upcoming activity of a more extensive content collection.

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. In addition, Manzavision pointed out that the tags need to be defined before the content collection.

Therefore, this document aims at:

a) Providing a suggestion on the categorization structure of the content to be collected based on the results of deliverable 1.1 and the initial content collection.
b) Creating a baseline for adjusting the categories and agreeing on them with all partners (M8).

2. SUMMARY OF D1.1: CONTEXT AND PRESUMPTIONS

2.1. GENERAL GOALS OF THE PROJECT

The goals related to the platforms and their content as defined in the proposal and Deliverable 1.1 are:

Underlying principle: Provision of methodological tools and a framework illustrated with use cases and good practices (rather than content, organized by subject, type of students etc.). → increase general awareness of the teachers regarding game-based learning

Moreover, the content should:

- be rich and diverse, as extensive as possible,
- be based on practical experience and show different versions/options,
- be easily adaptable,
- enable and facilitate the gamification of a wide variety of teaching contents - stimulates the teachers' creativity, lets them adapt game ideas to other topics, thus links it to similar ideas, alternative suggestions or further information (possibly on other websites).
- be easily accessible (effort for teachers to retrieve and use content should be very low),
- be easily searchable.

2.2. CONTENT STRUCTURE – FIRST APPROACH

We decided on four main categories to determine the initial content collection.

- *GBL Examples & Best Practises*: specific games and game ideas,

- *Gamification Mechanics & Elements*: types of games and gamification elements but also general information on game-based learning,
- *Gamification Tools*: tools that can be used to create games,
- *Dissemination & Networking*: similar or relevant networks, projects and initiatves with which GATE:VET can connect for dissemination purposes and/or to which the project can refer on the platform.

For each category, different specifications were given to prepare the integration of a search function and/or to have the option of adding tags later for easily searchable contents. 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 specificications 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, for which subjects is it mainly useful;
- *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.

2.3. TAGS AND FILTERS – RESULTS FROM WORKSHOPS

Based on this preliminary classification, we established possible tags and filters that could be used to search and navigate the content in the workshops organized by Manzavision, with the following results:

- The Dissemination & Networking category should not be considered as a tag or filter but kept separate.
- Instead of “subject” tags we should stick to universal subjects.
- Always suggest other options when a search gives 0 results.
- Additional tags and filters that need to be created include: collaborative/non-collaborative, time spent in the classroom to carry out the activity, degree of effort to prepare the activity.
- 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.

A chart with the tags and filters defined so far can be found in D1.1.

2.4. CONTENT RELATED GOALS DERIVED FROM THE INTERVIEWS WITH TEACHERS

While keeping in mind that we will probably not be able to fulfil all the wishes and ideas teachers expressed in the initial interviews, their answers can provide valuable input on their search behaviour.

Baseline:
Content needs to be well organized – time effort needs to be low.
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.

Use and usefulness of gamification/ goals related to gamification:

- Helping students to register and retain knowledge into memory,
- Helping students to gain improved understanding of the topic,
- Helping students to develop creative mindsets,
- Attaining an in-game learning goal,
- Developing a sense of constructive competition,
- Deconstructing subject knowledge to associated learning domains,
- Learning becomes fun.

A gamified medium easy to use for searching, organizing and retrieving content:

- "Finding *content easily without having to search for a long time*",
- "simplification *of content conversion (from analogue to digital) would be important*",
- Gamified content should be organized according to subject (maths, history, game genre (strategy, repetition, role playing, action, student level and perceived difficulty, length of activity, grade, level of complexity or of materials needed).

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.
- Varied teaching practices were also mentioned as a way to enhance practice-based teaching.
- Practice-based teaching felt that must be connected with specific topics encompassing limited types of games, both analogue and digital.

A diversity of game-based content:

- Game mechanics include 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.
- 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.
- 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 platforms should follow.
- Templates for designing games were felt as content to be included in the platforms.

3. SUMMARY OF REQUIREMENTS THAT DETERMINE COLLECTION

In an attempt to organize these very diverse and sometimes contradictory goals and needs, the following table provides an overview and gives indications for possible implementation. It is a translation of the goals and requirements into practical suggestions

Required/ submitted by	Goal/Requirement	Related to	Overlaps/Interferes with	Implications and ideas for implementation
Proposal/Project	Provision of methodological tools and framework illustrated with use cases and good practices (instead of ready to use games and content, organized by subject, type of students etc.) → increase general awareness of the teachers regarding game-based learning	Content (Description) Structure (Organization)	- Teachers' goal: Teachers 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. - Teachers' goal: The gamified content should be organized and represented in a way that both reflects the theoretical aspects and practical applications in teaching - Teachers' goal: "providing suggestions, variability/adaptability for different and multidisciplinary topics" - Teachers' goal: Practice-based teaching felt that needed to be connected with specific topics encompassing limited types of games - Teachers' goal: 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. - Teachers' goal: Distinctive labels and	Describe general game methodology and games that work with the described mechanisms Game mechanics could be these: https://www.gamified.uk/user-types/gamification-mechanics-elements/ or these; https://www.bunchball.com/gamification/game-mechanics Several other sources list more/fewer/other game meachanics.

			categories should be employed into “organized categories to find a game mechanic easily” for example.	
	rich and diverse, as extensive as possible	Content (Amount)		Collection of 20 (?) examples per partner?
	based on practical experience and show different versions/options	Content (Description)		Expert tip/hint/additional information by somebody that has used the game in classroom before Describe several examples that can be used to achieve the same goal
	content needs to be adaptable easily	Content (Description) Structure (Connections)	- Teachers’ goal: 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	Examples for use of certain games in several other areas Inspire creativity in teachers to think of other gamification possibilities
	enable and facilitate the gamification of a wide variety of teaching contents - stimulates the teachers’ creativity, lets them adapt game ideas to other topics, thus links it to similar ideas, alternative suggestions or further information (possibly on other websites).	Content (Description) Structure (Connections)	- Teachers’ goal: 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 - Teachers’ goal: 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.	
	effort for teachers to retrieve and use content should be	Content (Description)	Teachers goals: content needs to be well organized – time effort needs to be low	Short and clear language, important information can be found easily, material

	very low	Structure (Organization)		provided
Initial Collection/ Workshops	Gamification Mechanics & Elements: types of games and gamification elements but also general information on game-based learning	Content (Description) Structure (Organization)		Need to clarify what we mean with mechanics & elements Still general info on game-based learning?
	Gamification Tools: tools to create games	Structure (Organization)		Keep separate
	Dissemination & Networking category should not be considered as a tag or filter	Structure (Organization)		Keep separate We can show this sort of information in another section of the web portal such as "Interesting links".
	Instead of “subject” tags we should stick to universal subjects	Structure (Organization)		Could be competence based? suggestion: EQF definition of knowledge, skills and competences: - “knowledge” means the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study; - “skills” means the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are

				described as cognitive or practical; - "competence" means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development Other option: define "universal subjects"
	Whether the activity is collaborative or non-collaborative.			Agreed
	The time spent in the classroom to carry out the activity. Suggested possibilities: 5 minutes, 15 minutes, 60 minutes			Generally yes. We need to consider that there are other gamification elements like a competition for several weeks for example. How would this fit into those times?
	The amount of preparation the activity needs in terms of the degree of effort. Suggested possibilities: low effort, medium effort, high effort.		Teachers goals: content needs to be well organized – time effort needs to be low	Ok. Alternatively, times could be indicated here too. Low/medium and high are rather subjective terms.
	The Analog/Digital distinction present in the Best Practices category should also be applied to the Mechanics category.			Game mechanics should describe the core element of the game (turn-based, resource management, role-play, etc.) Do you think a distinction between digital and analogue games is relevant? Nevertheless, the material needed should

				be indicated (how many and what kind of devices, sheets of paper, cards etc.)
	The learning goal present in the Best Practices category should also be applied to the Tools category			The tools can be used for several learning goals. For example, kahoot can be used to convey knowledge but also for repetitions etc. ➔ If we use tags, we can add several.
Interviewed Teachers	Helping students to register and retain knowledge into memory			These different associations with gamification and what it can be useful for can be used as categories ➔ Probably have to be completed.
	Helping students to gain improved understanding of the topic			
	Helping students to develop creative mindsets			
	Attaining an in-game learning goal			
	Developing a sense of constructive competition			
	Deconstructing subject knowledge to associated learning domains			
	Learning becomes fun			

	Lesson plans could also provide a more design-based structure of how the game activity will be planed and orchestrated along with all the other activities			I classified these as less relevant. We should still keep them in mind.
	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			
	Some games perceived as more meaningful and effective on student's learning having real-world goals and intriguing narrative			
	Templates for designing games were felt as content to be included in the platform			
	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			

4. Suggestion to Structure the Content

Based on the previously described goals connected with the platform by several stakeholders, there are several possibilities to structure the content on the platforms.

As discussed before, the main challenge might be that the teachers are going to search for a specific subject and are not likely to browse through various terms (i.e. game mechanics) they do not know and leave the platform if they do not find it useful.

Approach (you can find a visualization on page 15):

Keeping the content separate in categories. The basis is always an extensive collection of games and best practises, but accessing it can happen via one of the two (A or B):

A. **Game mechanics and gamification elements/components**: including a description (how it can be implemented, exmple(s), suitable for which type of learners/ players, situations, pros and cons, etc.).

   Similar to how they did it here: https://www.gamified.uk/user-types/gamification-mechanics-elements/

   The information I found on this was a rather lose collection of game mechanics and they vary. We will need to decide on the ones we would like to include.

   This is for teachers to get general information on gamification. From there, we could link examples to games using the described mechanisms and components.

   What would be suitable filters or tags?

B. **One of the two:**

   - **Type of learning activity:** including a description of suitable gamification mechanics and element for each type of learning activity We would have to finetune the categories but they (and the tags) could be: Content-based, Interaction based, Inquiry-based, Critical thinking, Problem-solving, Reflection, Production
   - **Goal of classroom activity:** Assuming that teachers start from their goal, we could use the goals and reasons why they (would) use games and gamification in class. Again, a description of suitable gamification mechanics and element for each goal would be essential. The tags could be: make learning more fun, apply subject knowledge to other areas, developing creative mindsets, getting a deeper understanding, registering and retaining knowledge,… → we might complete these and add categories like “student evaluation”

   This is for teachers to get specific information on using gamification for specific types of learning activities or goals. From there, we could link examples to games targeting those goals.

   For both, several suitable games and examples should be provided.

C. **Collection of games and best practises:** This is the **core of the content** and we already defined some tags in the previous activities (initial collection and workshops):

   - Analog/ Digital
   - Collaborative/ Non-collaborative

- Single player/ Small group (2-4)/ Medium group (5-12)/ Whole class
- 5 minutes/ 15 minutes/ 60 minutes or more (Duration in classroom)
- Low effort/ Medium effort/ High effort (Degree of preparation)
- Target group (keep or dismiss? Our platform is targeting VET teachers (or at least secondary school teachers so the target group is realtively unanimous)

Additional tags:

- Necessary: Knowledge – Skills – Competences (instead of subjects) or subject areas → need to define them
- Others?

D. **Collection of tools** – should be kept separate

Suggestion: We can try to fill the template for the examples we already provided and think about whether these tags are suitable or not and which ones we could/should add. Then, we can adjust the template (and categories) and start our collection.

I added an example on page 16.

In a next step, we can describe the content of the general categories and link the examples to those.

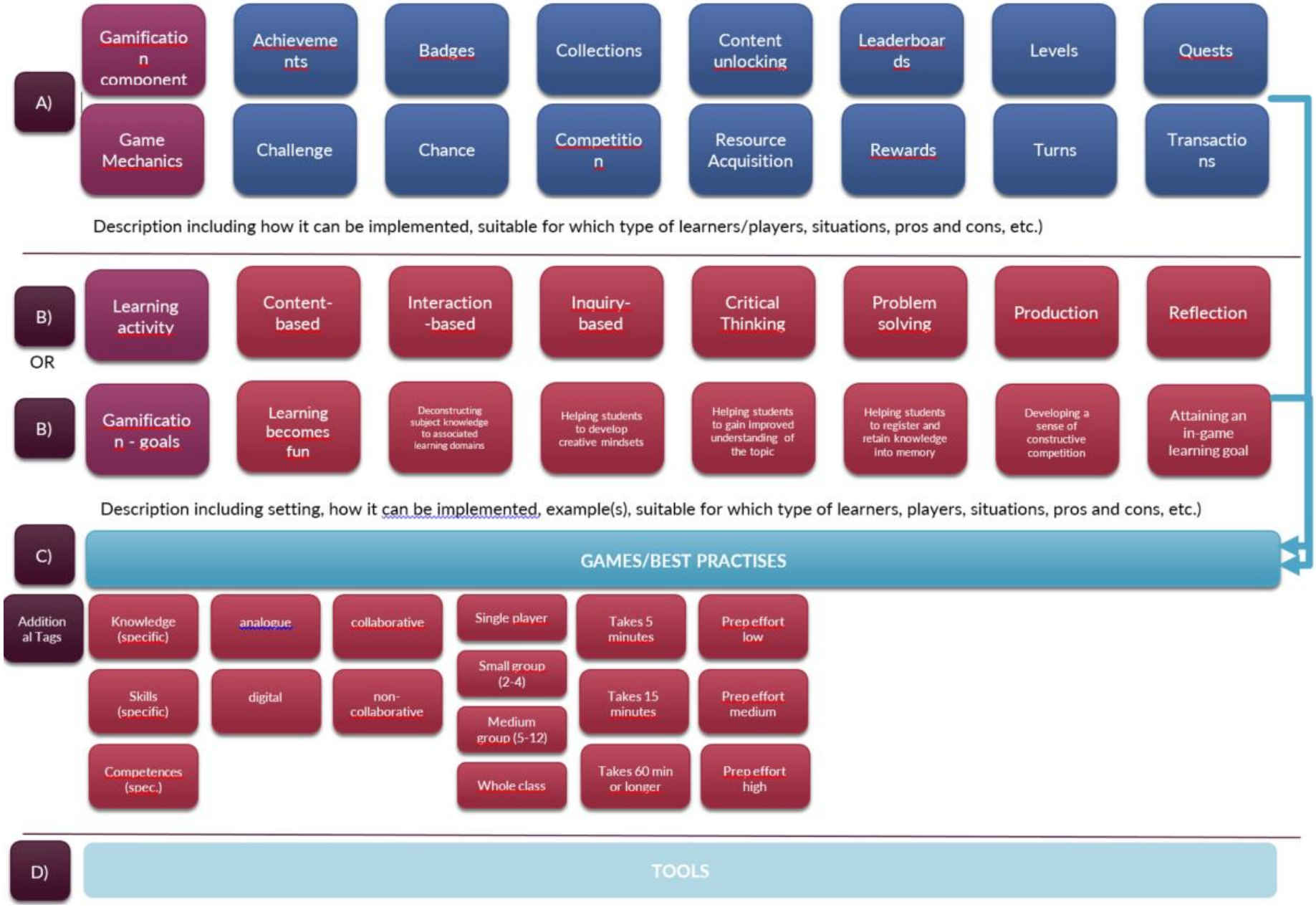

Figure 1: Organization of content on the platform - suggestion

4.1. TEMPLATE FOR THE CONTENT COLLECTION – WITH EXAMPLE

<table>
<tr><td>Learning activity</td><td>Competences targeted (Professional, Social, Personal)</td><td>GAME MECHANIC(S) (TO BE DETERMINED)</td><td colspan="2">DURATION</td></tr>
<tr><td rowspan="2">Content-based
Interaction based</td><td rowspan="2"></td><td rowspan="2">☒ SIMULATION
☐ …
☐ …</td><td>PLAY</td><td>PREPARATION</td></tr>
<tr><td>☐ 5 MIN
☐ 15 MIN
☒ 60 MIN OR LONGER</td><td>☒ LOW
☐ MEDIUM
☐ HIGH</td></tr>
<tr><td>Material</td><td>Implementation (context)</td><td>GAMIFICATION COMPONENTS (TO BE DETERMINED)</td><td colspan="2">NO. OF PLAYERS</td></tr>
<tr><td>☐ analogue
☐ DIGITAL
internet connection/WIFI
Mobile devices: tablets and smartphones (operating systems: Android or iOS) are compatible from a minimum screen size of 4 inches. Keep Cool mobile also runs on desktop computers.
Browser recommendation: We recommend Google Chrome, but the game also runs in Mozilla Firefox and Safari. Attention: The game will not run in Internet Explorer.</td><td>Politics, social sciences, economics, geography, biology, science and technology, ethics, German and bilingual teaching, it is a good idea to work with colleagues from other disciplines.</td><td>☐ …
☐ …</td><td colspan="2">UP TO 50</td></tr>
<tr><td colspan="5">Description</td></tr>
</table>

(MAX NUMBER OF WORDS OR CHARACTERS?) KEEP COOL mobil is a mobile simulation game on climate change and climate policy for (learning) groups of up to 50 players aged 14 and over. As the mayor of a large metropolis, the players determine their strategy for economic growth and collect victory points. Before major climate conferences, the players influence their governments and thus international climate policy. But beware: no matter how successful the individual economy is, everyone must keep climate change in mind together. If global warming increases by 2°C, everyone loses! KEEP COOL mobile is playable on desktop, tablet or smartphone.
Example for Implementation/ Expert Opinion
SOURCE: http://keep-cool-mobil.de/
RESOURCES: additional resources can be found on the website.

5. Realisation of Content Collection

To account for the varied platform requirements as identified in teacher interviews and initial considerations for establishing a functional tool that can effectively increase VET teachers' understanding of GBL teaching practices, the project partners determined that not one but two platforms are be needed. As a result, the project is developing a wiki as well as an app to introduce VET teachers to gamification and GBL as well as providing a range of best practice examples and practical resources. While the wiki enables the community character through peer learning and exchange (via self-motivated and collaborative wiki content creation and commenting/editing function), the app employs GBL approaches for users to train their knowledge on gamification and GBL.

When both platforms were still in the process of being configured, i.e. before content collection directly into the wiki and app was possible, project partners started to collaboratively collect contents for Educational Sheets in a GoogleDoc. This process also helped refining the types of categories and tags that were initially established by the project partners (as described in this document) and would be used in the wiki and app.

In two online workshops organized by Manzavision, the project partners were introduced to the basics of adding content to the app and wiki. The process of content collection is also aided by a shared Excel document, which helps keeping track of the contents created (content created by whom, in wiki and/or app, with/out image etc.).

The shared Excel document was also used to collect definitions or descriptions for shorter entries (such as most of the glossary terms) before these could be added directly to the wiki and/or app. In the course of defining different categorizations for content, the project partners realized that there must be an overall distinction between theoretical terms and best practice examples, as these cannot necessarily be described with the same selection of categories or tags. In response to this issue, the distinction between glossary terms and educational sheets was introduced, which is reflected differently in wiki and app (see Table 1).

Since the purpose and functions of the two platforms differ, contents are structured differently for the wiki and the app. There is a great overlap between the contents of both platforms; however, there are slight differences as outlined in Table 1:

Wiki	**App**
Main content types: (1) Glossary terms (2) Educational Sheets	Main content types: (1) Flashcards (2) Articles (3) Mini Games
n/a	Themes of contents: (a) Educational Sheets (b) Glossary (c) Training-of-Trainers
Content described through categories	Content described through tags
No size limitations in detailed content summaries	Content descriptions limited to 1500 characters

Content initially created by GATE:VET team	Content initially created by GATE:VET team
Content eventually created by users	n/a
Fluent content, as users can continuously expand, update and modify content	Fixed content, as content is not editable by users

Table 1: Wiki and App Content Compared

5.1. Content Categories (as of September 2020)

While the basic structure of contents is established, the final presentation of contents, particularly in the wiki, is still being refined. An overview of the current categories, as they are available in the wiki, can be seen in figures 2-4. These largely mirror the tags in the app, where users can search via these terms. However, users cannot view and navigate the content via an overview of the categories in a structure similar to the one provided in the wiki.

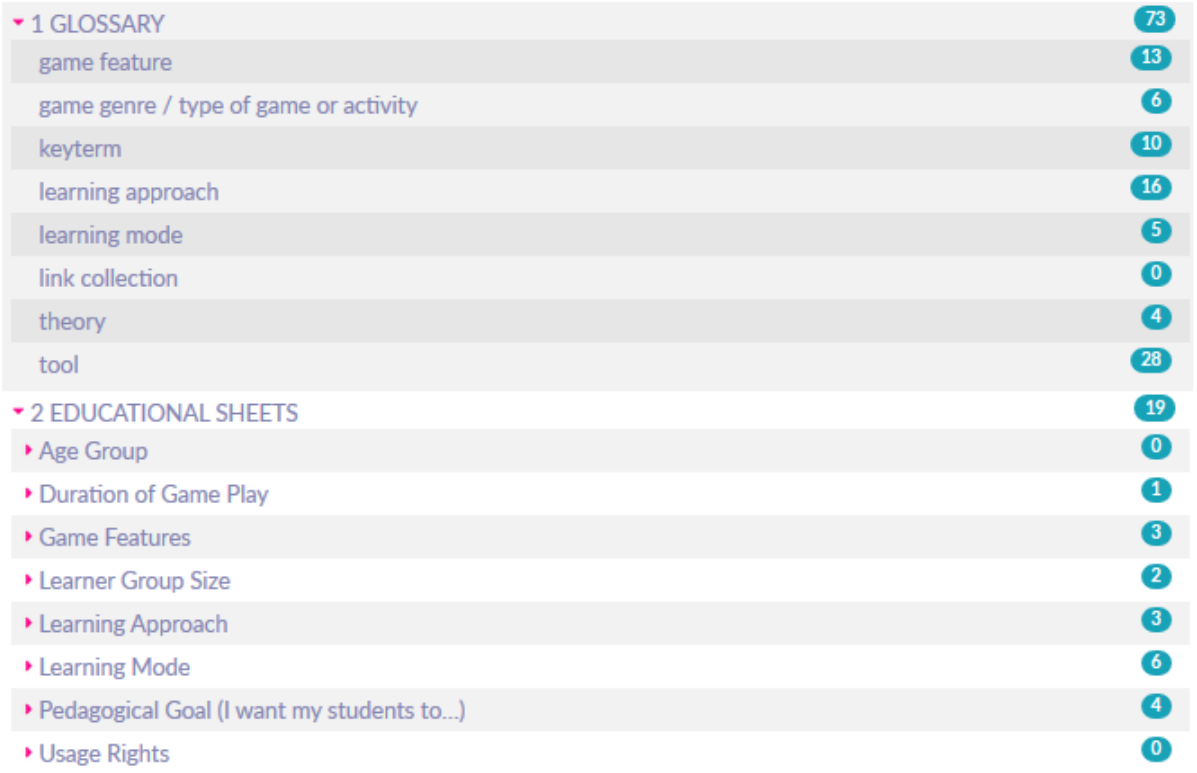

Figure 2: Wiki Categories Overview

Figure 3 & 4: Subcategories Wiki

6. Conclusion

This document illustrates the development process of categories for GATE:VET's two online platforms, the wiki and the app. It has been shown that a number of perspectives and concerns have been considered in the creation of categories and tags; the goals of the project were effectively aligned with the interests and ideas of the teachers. While the category structure, as developed by September 2020, is fairly detailed and functional, the development process is not yet considered complete. Further input will be sought at a multiplier event in October, at which feedback will be collected from VET teachers to ensure that their needs and interests have been fully considered. At this stage, we do not expect fundamental changes in the overall content structure, but a couple of improvements in the presentation and visualisation of content.