MAKE IT OPEN

Navigator clickable prototype and test report

Deliverable 3.2

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.872106

Work Package	3 Open Schooling Navigator
Task	3.2
Due Date	October 31, 2021
Submission Date	October 31, 2021
Deliverable Lead	WAAG
Dissemination Level	Public
Document Nature	Report
Authors	Pam de Sterke (WAAG), Lodewijk Loos (WAAG), Alain Otjens (WAAG), Kristel Kerstens (WAAG), Jessy van Os (WAAG)
Reviewers	Andrew Whittington - Davis (Ecsite), Alix Thullier (Ecsite)
Status	☑ Plan ☑ Draft ☑ Working ☑ Final ☐ Submitted ☐ Approved

Revision History

Revision	Date	Author	Organization	Description

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.872106

0.1				
0.2				
0.3				
1.0				

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No.872106

Executive Summary

Make it Open is a project which prioritises widening participation through bringing maker culture, citizen science and open schooling to science education. In this context work package 3 develops an online platform to enhance the sharing of Open Schooling learning material created in the project. This online platform is called the Open Schooling Navigator.

The Open Schooling Navigator is created in an iterative process, as it is a platform for sharing material and knowledge developed in the rest of the project. The creation process knows 4 sprints. This prototype and first user-test results are the finalisation of sprint 1.

The prototype is to be found on https://prototype.openschoolingnavigator.eu. This document reports on the prototype of the Open Schooling Navigator and preliminary test results of the prototype, more specifically:

- steps taken in the creation process;
- explanation of what is to be found in the prototype and how information is structured;
- design choices that were made;
- users tests, including preliminary results of the first user test;
- preview of the next steps in creation of the next version of the OSN in sprint 2 and beyond;
- insight into how development of the Open Schooling navigator is aligned with, and depending on work in other work packages.

List of abbreviations

In alphabetical order:

API	Application Programming Interface
CMS	Content Management System
LS	Learning Scenario
LU	Learning Unit
OS	Open Schooling
OSN	Open Schooling Navigator

Table of Contents

Table of Figures

1. Introduction

Make it Open is developing a mix of actions, tools and resources that are open for the education community to join, use or attend. Work package 3, led by Waag, develops the Open Schooling Navigator: an interactive online platform to support teachers and educators in navigating the open schooling world. Waag worked in close collaboration with Forth (formally Fixperts) to develop a content framework for the Open Schooling Navigator (OSN), which is described in deliverable 3.1 *Content Framework with defined requirements and parameters* and was delivered in M9.

Deliverable 3.1 *Navigator prototype and test report* consist of two parts. It is part report - this is the document you are currently reading- and an actual clickable prototype that you can find on https://prototype.openschoolingnavigator.eu. We highly recommend opening the prototype and browsing it, while you continue reading.

The report explains two things: the creation process of the prototype as the completion of the first of four sprints towards a final Open Schooling Navigator (OSN); and the user tests of sprint 2, for which we use this prototype, including preliminary results.

In chapter 2 we paint the larger picture with regards to the OSN and our iterative work process towards its final version.

In chapter 3 we look at the design choices that we have made, while building the prototype. The principles have all been laid out in D3.1, in this chapter we look back at how conceptual- , visual- , front- and back-end choices worked out in practice.

In chapter 4 the user testing of sprint 2 is thoroughly explained: its purpose, our method, the test-groups and preliminary results of the first of 2 tests.

In chapter 5 we show the work we anticipate towards completing task 3.3 and beyond; and we summarise interdependencies between work packages 3 and 1, 2 and 4.

2. Open Schooling Navigator

The OSN is an interactive online platform aimed at teachers and other educators. The OSN explains Open Schooling, it inspires you to try and/or make Open Schooling projects and encourages you to share experiences and knowledge.

The final version of the OSN will:

- provide inspiration and information on Open Schooling;
- provide (information about) Learning Scenarios that are developed by the pilot teachers;
- help to design one's own Learning Scenario;
- help to design an Open Schooling strategy;
- and, facilitate sharing ideas with peers, to support a growing Open Schooling European community of practitioners.

2.1 Working towards a complete platform in an iterative process

In the process of designing and building the OSN we keep a constant focus on adding more value for the users of the tool. To get there, an iterative process is followed. Instead of thinking through all the functionalities, then design, build, test and launch the OSN, we are designing and building it in smaller increments. Each increment will be an improvement and extension of the previous version, based on feedback gained by tests with users.

This iterative process is the prefered way of working in a research and innovation project such as Make it Open, in which a lot of work with interdependencies is done simultaneously.

2.2 Building different versions related to services provided

While it is important to realise that working in an iterative process as described above means learning by doing and accepting that not all functionalities and requirements are clear at every stage, we do plan four main 'sprints' in this iterative process, all resulting in a version of the OSN that can be tested with potential users. These versions relate to the different services the OSN will offer:

- **Version 1** focuses on offering information and inspiration.
- **Version 2** will improve the first version, and functionalities that focus on helping users to design their own Open Schooling project will be added.
- **Version 3** will improve the second version, and functionalities focussing on facilitating sharing ideas and building a community will be added.
- **Version 4** is the final version of the OSN, in which all three services are offered in the most valuable way.

At this moment, **version 1** is ready. Chapter 3 *Version 1 OSN: prototype* explains this first version in more depth.

2.3 Testing different versions to learn from users

As the purpose and core principles of the OSN state, we aim to create a tool that is more than a website that shows LSs. To decide what functionalities have to be added to create this kind of tool, we will also take time during and between working on the different versions of the OSN to learn from users. We will research what other functionalities are valuable for users to make the OSN a platform that really facilitates Open Schooling.

At this moment, we are testing version 1 of the OSN with users. The first tests have already been carried out. Chapter 4 *Testing the prototype* describes the first tests in more depth.

3. Version 1 OSN: prototype

This chapter presents the first version of the OSN by explaining its focus and structure and motivating main design choices.

3.1 Where to find the prototype

The prototype of the OSN is available online at: https://prototype.openschoolingnavigator.eu.

The prototype has been tested in the recent versions of all major browsers for desktop computers and mobile phones. In older browsers, such as Internet Explorer some (display) functionalities may not fully work. In later versions, we will test a wider range of devices (i.e. also include tablets and more types of phones and computers) and browsers (i.e. include more old versions of browsers).

3.2 Focus and structure of the prototype

As stated in paragraph 2.2 *Building different versions related to services provided* this version focuses on offering information and inspiration. To offer information and inspiration it:

- presents basic information about Open Schooling and Make it Open
- presents the first 8 Learning Scenarios in an easily accessible and valuable way (the Learning Scenarios are presented in a usable and useful way[1])
- allows users to freely browse the first eight Learning Scenarios and select one based on their needs.

3.2.1 Focus on information

The basic information about Open Schooling and Make it Open is mainly presented on the homepage of the OSN and underlying content pages.

[1] Usable: users understand how to use a product. Useful: what the product offers is beneficial for users.

3.2.1.1 Homepage

The homepage (prototype.openschoolingnavigator.eu) can be considered the 'cover' of the OSN and the 'index' of the information about Open Schooling, information about the OSN as a tool and information about Make it Open as a project.

The homepage shows what can be found on this website: you can learn more about Open Schooling and you can get inspired by examples of Open Schooling done by other educators. In this version, these inspirational examples are the Learning Scenarios developed for the first pilot.

Figure 1: Upper part of the homepage explaining what can be found on this website

Different blocks on the homepage serve as the index to the informative content that can be found on the website.

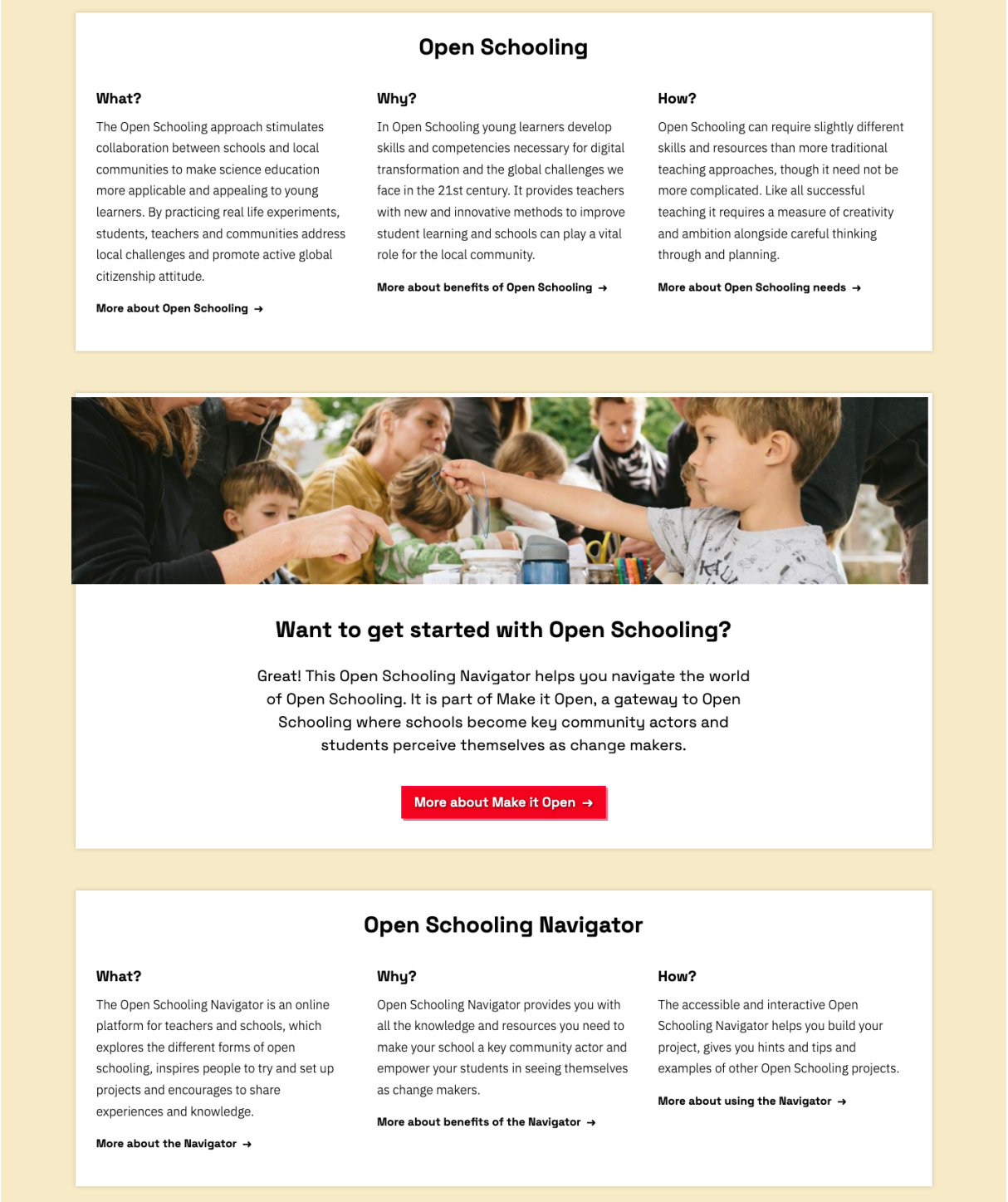

Figure 2: Index blocks homepage OSN version 1

The ‘Featured tools’ part is the ‘shopping window’ of the OSN: it is a place to draw extra attention to certain tools that are available in the OSN. For the next versions, with expectedly more tools to offer, this part of the homepage will be more relevant and valuable. For this version we already reserved a place for this functionality and filled it with some Learning Scenarios and a fictional template of a letter for parents (possibly a relevant tool for educators, but not yet part of the available content).

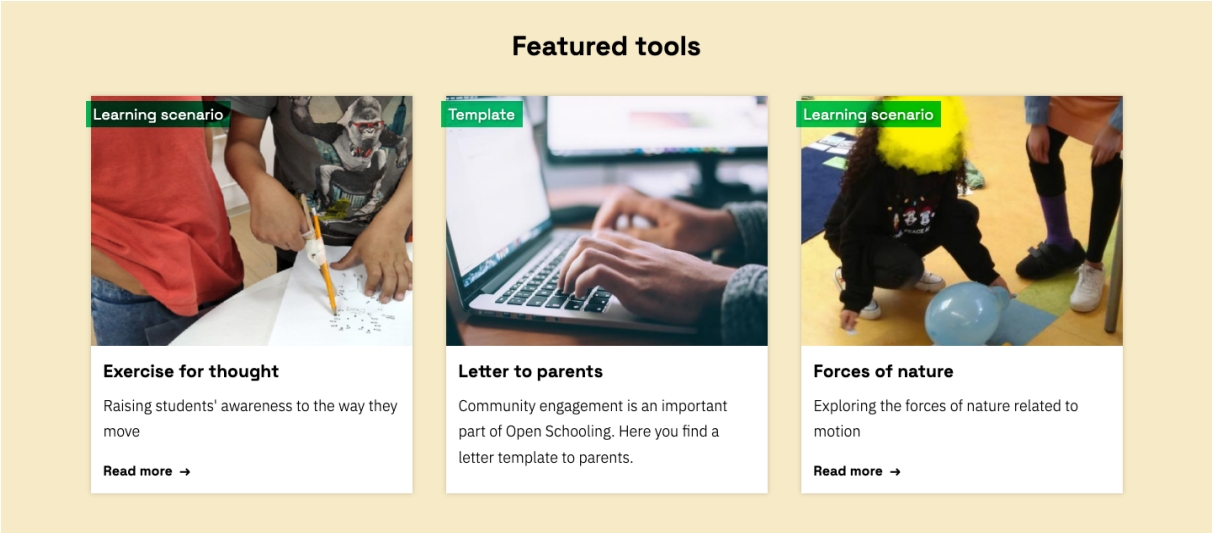

Figure 3: Featured tools part homepage OSN version 1

3.2.1.2 Content pages

Information about Open Schooling, the project Make it Open and the OSN is presented in more detail on these content pages:

- General introduction to Open Schooling
  prototype.openschoolingnavigator.eu/open-schooling
- What is Open Schooling?
  prototype.openschoolingnavigator.eu/what-is-open-schooling
- Benefits of Open Schooling
  prototype.openschoolingnavigator.eu/benefits-of-open-schooling
- Open Schooling needs
  prototype.openschoolingnavigator.eu/open-schooling-needs
- About the project Make it Open
  prototype.openschoolingnavigator.eu/make-it-open
- What is the Open Schooling Navigator?
  prototype.openschoolingnavigator.eu/what-is-the-open-schooling-navigator
- Why an Open Schooling Navigator?
  prototype.openschoolingnavigator.eu/why-an-open-schooling-navigator
- How to use the Open Schooling Navigator
  prototype.openschoolingnavigator.eu/how-to-use-the-open-schooling-navigator

In the next version this information will be specified more towards needs from teachers that will be identified during the tests with this first version.

3.2.2 Structure of informational part

Figure 4 (below) shows the structure of the informational part of the OSN in a schematic view: the homepage (and main menu) gives access to multiple underlying content pages with more information on different topics related to Open Schooling, the Make it Open project and the OSN.

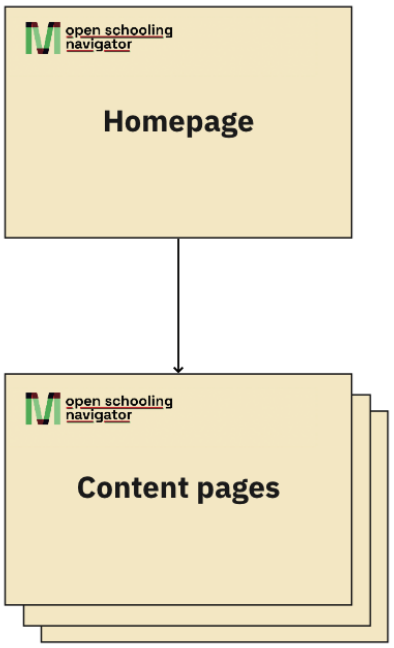

Figure 4: Structure information part OSN

3.2.3 Focus on inspiration

The inspirational part of the OSN can be accessed by clicking on the 'Get inspired now' button in the main header of the homepage, or by clicking the menu item 'Learning Scenarios' in the main menu of the OSN (upper right corner of every page). The inspirational part presents the first eight Learning Scenarios (LSs) and all underlying Learning Units (LUs). It consists of one page with a complete overview of all LSs that are part of the first version, and underlying pages for each of these LSs and all LUs. Figure 7 on page 21 presents a schematic view of this structure.

3.2.3.1 Overview page of all Learning Scenarios

The Learning Scenarios overview page (prototype.openschoolingnavigator.eu/learning-scenarios) offers an overview of the eight LSs that are part of the first version. This page offers the possibility to freely browse these Learning Scenarios as well as to select a fitting Learning Scenario by using filters for age and subject.

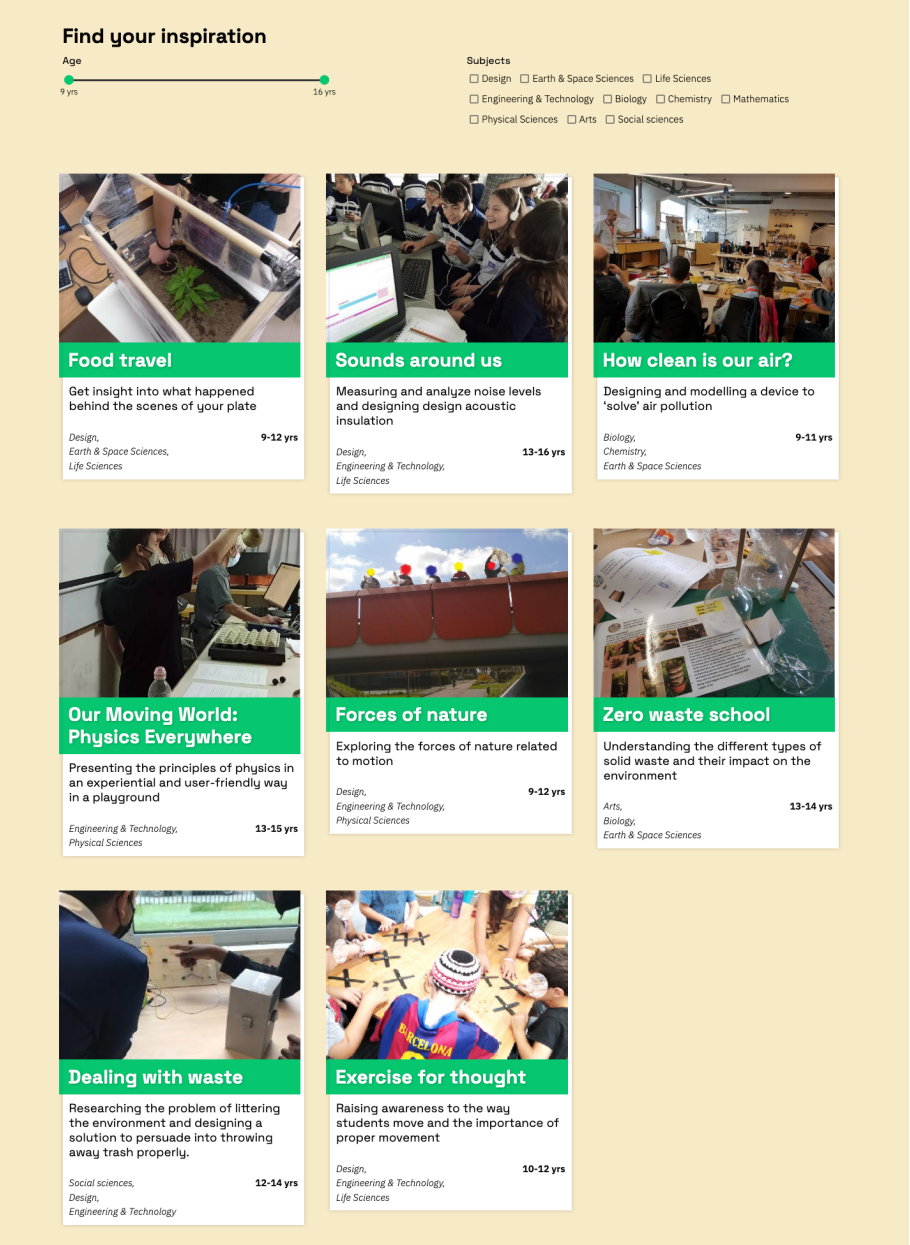

Figure 5: Overview of all Learning Scenarios available in the first version

The block ‘Get inspired’ (as shown in Figure 6, below) already gives a hint towards future functionalities we envision for the OSN.

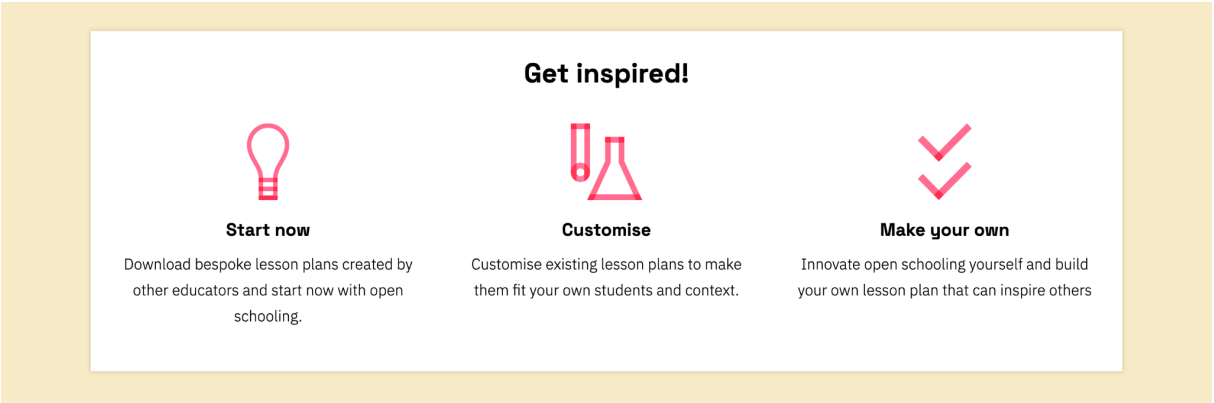

Figure 6: A hint towards future functionalities envisioned for the OSN

The **Start now** part refers to the Learning Scenarios (LSs) that will be part of the OSN, with the eight LSs that are currently presented as a first start. With **Customize** we plan to offer educators the possibility to adapt existing LSs to make them fit their own context (e.g. students, location, etc). The **Make your own** part reflects the ambition of the OSN to help educators build their own Open Schooling lessons from scratch.

This first version is limited to functionalities within the ‘Start now’ category. When testing the first version, we will learn which functionalities are relevant to add to the other two categories.

3.2.3.2 Learning Scenario page

For each of the eight LSs, the OSN offers a LS page with more information about the LS and an overview of all LUs that are part of the LS. The LS page presents all the information that was delivered for the pilot (WP2).

One example of a learning scenario page can be found on prototype.openschoolingnavigator.eu/learning-scenario/our-moving-world-physics-everywhere.

3.2.3.3 Learning Unit page

Clicking on a LU on the LS page, takes the user of the OSN to the 'LU page'. For every LU, the OSN offers a separate page with all the information that is delivered for the pilot (WP2).

One example of a Learning Unit page can be found on prototype.openschoolingnavigator.eu/learning-unit/how-is-waste-processed-part-2.

3.2.4 Structure of the inspirational part

Figure 7 shows the structure of the inspirational part of the OSN: the overview page gives access to 8 LS pages and each of these LS pages gives access to all underlying LUs.

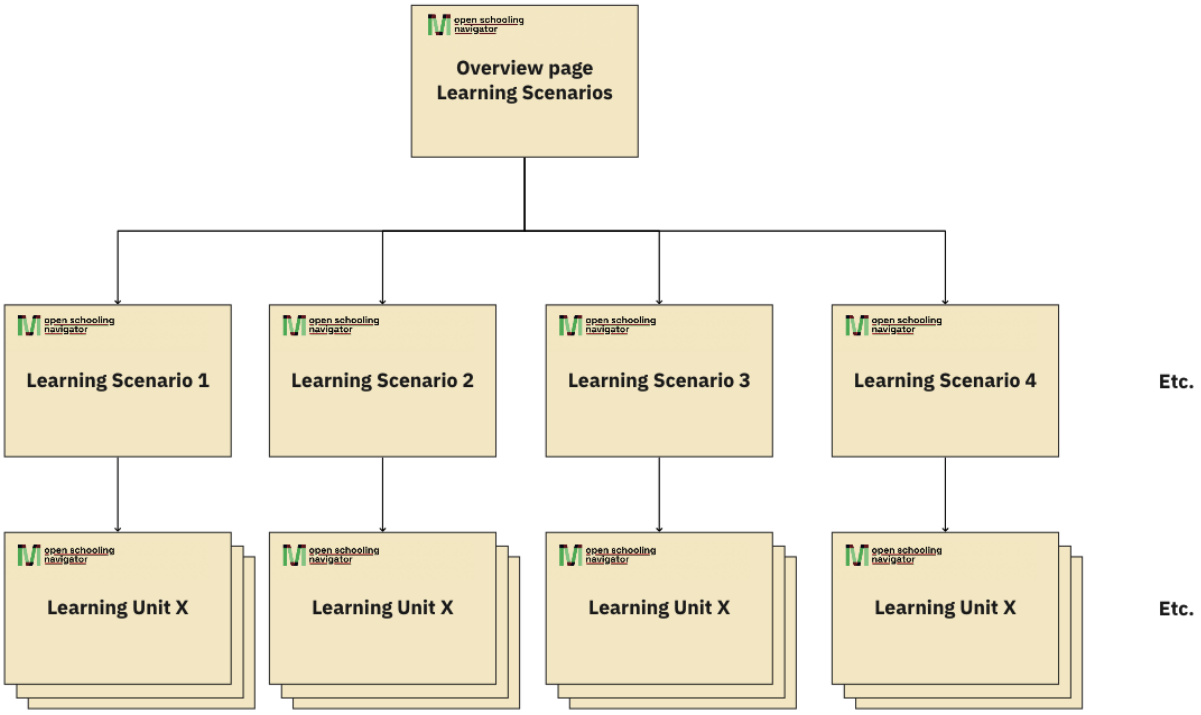

Figure 7: Structure inspirational part OSN

3.3 Motivation of design choices

The following sections highlight some important design choices made during the development of the first version of the OSN. The aim here is to give insight into the thinking and designing process followed in the development of the OSN.

Design choices will be evaluated during the test with the first version of the OSN, and reviewed if necessary in the next versions.

3.3.1 Conceptual design choices

3.3.1.1 Blocks in overview of all LUs present information that indicate the 'level' of Open Schooling

Every LS page shows an overview of all LUs that are part of that specific LS. The LUs are presented in blocks with a title, a compact teaser that shortly explains the core of the LU and - in a light grey box - a summary of the **format** used, the **locations to visit** and the **local partners** to collaborate with.

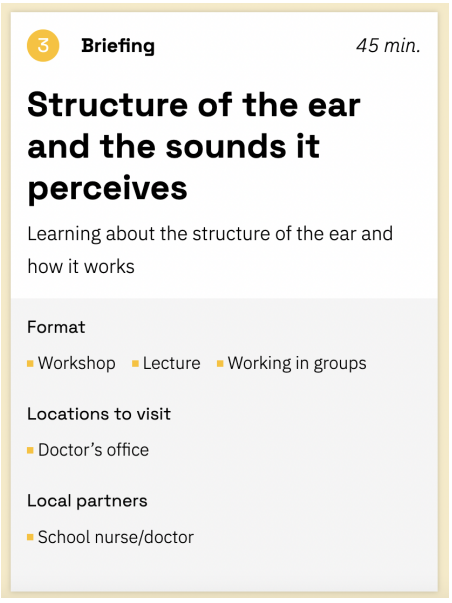

Figure 8: Format, locations to visit and local partners in LU block

We decided to present the information in this light grey box at this level, since these are the most important indicators for the ‘level’ of Open Schooling in terms of going outside of the classroom and collaboration with local partners. This information helps educators to understand what makes this specific LU an Open Schooling LU, and what they need to prepare in order to execute it.

3.3.1.2 Filters on overview page of all LSs

The eight LSs that are presented on the overview page can be filtered by two categories: age and subject. We selected these filters because they will help educators to quickly narrow down the offer of LSs to their own students and context. At the same time, this limited number of filters does not exclude possible interesting LSs too quickly, which could be the case with a larger number of filters. In other words: we aim to help educators select a relevant LS and at the same time keep their view on possible new inspiration open as long as possible.

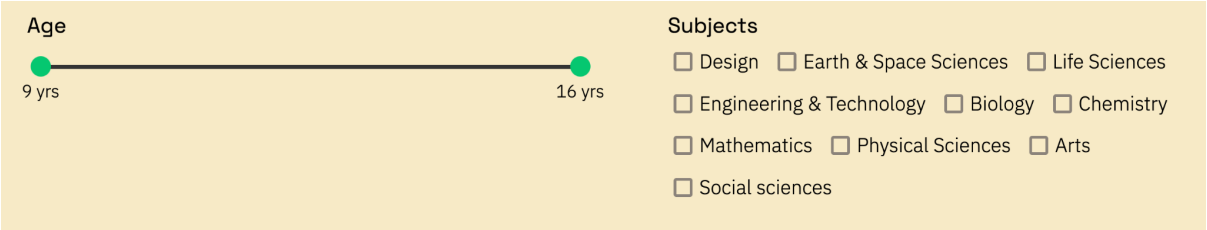

Figure 9: Filter options overview LSs

The test with this first version will make clear whether this setup of the filters indeed works out as intended and if not, what needs to be changed.

3.3.1.3 Information categorized to make it more scannable

The information on the LS pages and LU pages is categorised by different topics, with each topic presented in separate blocks with clear titles. This adds to the scannability of the content. This way we aim to help educators quickly decide whether the

presented information could be relevant for working with their own students and/or in their own context.

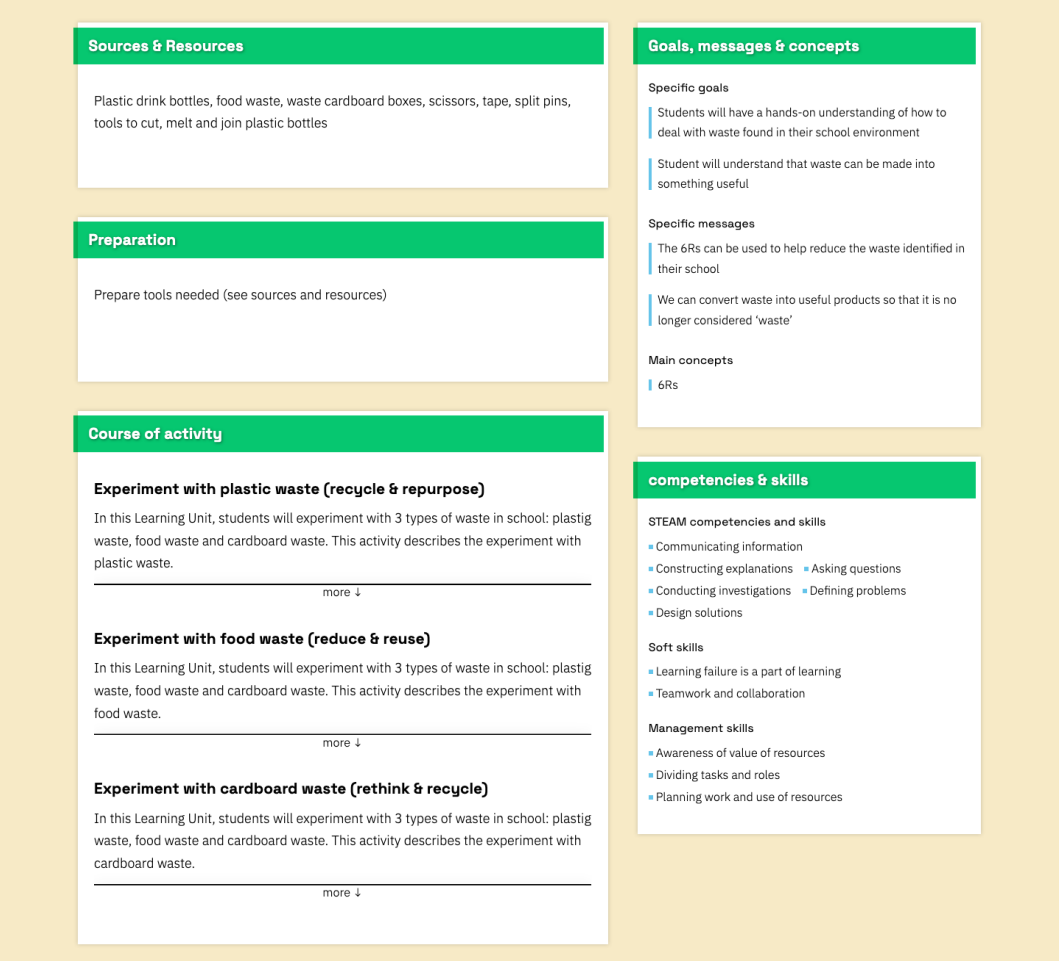

Figure 10: Presentation of information in separate blocks with clear titles

3.3.1.4 'Hands-on' teaching information separated from 'Strategic' teaching information

On the LS and LU pages, we decided to reserve the left part of the page for 'hands-on' teaching information and the right side of the page for more 'strategic' teaching information.

Hands-on teaching information is information that helps to envision the project and/or lesson clearly and answer questions like 'What exactly are students going to

do in this project or lesson?', 'What do I need to prepare?', 'What sources and resources do I need?' etc.

Strategic teaching information is information that helps to decide where in the curriculum the project and/or lesson might fit best. It presents information like learning goals and messages and competencies and skills.

By visually separating these two kinds of information, we aim to help educators scan these pages more easily by their own needs.

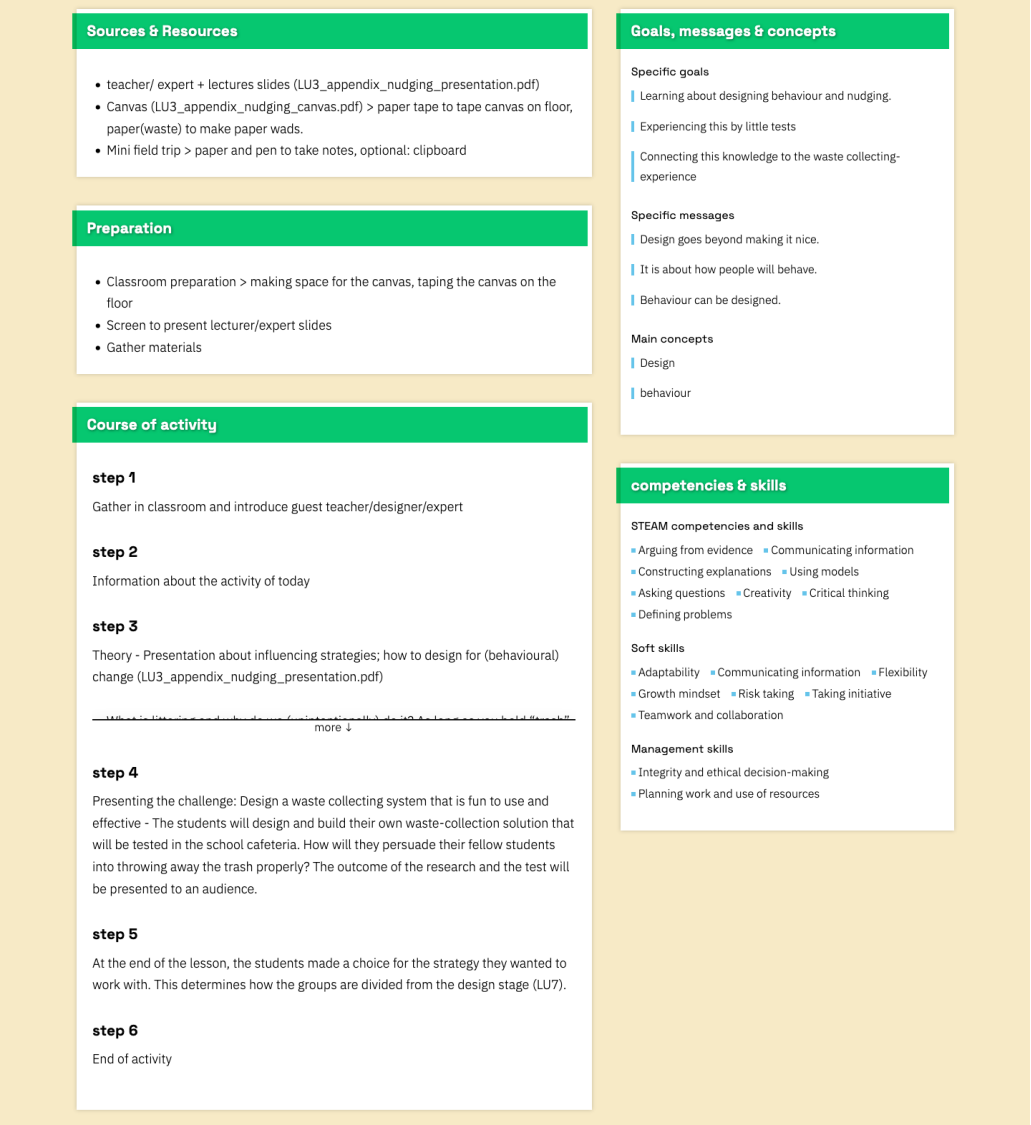

Figure 11: Hands-on teaching information (left) vs strategic teaching information (right)

3.3.2 Visual design choices

The visual design of the OSN builds on the visual identity developed earlier which aims for a clear and simple graphic design and page layouts. Next to aesthetics, all visual design choices are made especially with readability and accessibility in mind.

- All texts on the website are rendered in a sufficient font size by default.
- Body text is always rendered as black text on a white background to maximise contrast.
- Titles on green background have a subtle shadow to increase legibility.

The structure of the content is tried to be communicated as clearly as possible by the lay-out and visual design.

- Different sections are displayed in separate blocks.
- Sufficient white space is used to demarcate items.
- The structure of the website is clarified by the crumble path navigation.
- The main sections (of LSs and LUs) are clarified by the sticky page navigation.

3.3.3 Frontend design choices

Choices concerning the frontend technology used for the OSN are made primarily with development flexibility and accessibility in mind.

Within our iterative development process flexibility is important. We chose to decouple the frontend from the (Drupal) backend and to use a separate frontend framework to develop the OSN website, namely Gatsby (https://www.gatsbyjs.com/). This choice provides flexibility in that we could still decide to switch CMS but also in the sense that we can also include other data sources in this setup. Another feature of such a frontend framework that provides flexibility in the development process is that it is component based. For later versions we can renew, replace and complement the different components that make up the website without having to start afresh.

Choices in the frontend technology concerning accessibility entails mainly to make sure the OSN website can be visited from the most (types of) devices and browsers as possible. This means support for the most modern devices as well as older devices with older browser versions or slower devices with less computing power. It also means supporting visual browsers as well as screen readers. The OSN is then also accessible to those who do not have the latest (expensive) devices and to those who have any form of vision loss or impairment. As noted in paragraph 3.1 *Where to find the prototype* this version of the OSN had not been fully tested for all older browsers. A lot of measures to make the OSN website browsable by screen readers are already taken, for example by paying attention to the underlying structure in the markup code or by using the right html elements that screen readers can understand.

3.3.4 Backend design choices

The prototype is CMS driven. All content (files, text, images) in the prototype can be moderated in the content management system. In order to get as much consistency in the representation of the content as possible, all learning scenarios and learning units submitted by the pilots were thoroughly analysed in order to set up a content structure that reflects the content. At some points the content structure still leaves room for more detailing. For example, moderators at this point have some formatting options that may get restricted later on. Improving the structure of the content and reformatting the content is an ongoing process that interacts with the development of the content.

Drupal is our CMS of choice for numerous reasons. This is because Drupal:

- is a proven well supported Open Source technology.
- offers a rich amount of features for content moderation and translation.
- offers various APIs that comply with standards allowing for building a seperated (front-end) applications on top of it.
- offers the flexibility to cope with a still evolving content structure.

4. Testing the prototype

Testing the prototype is currently work in progress. We plan to do two tests with the prototype. The first test has already been performed, but the analysis of the results of this test has not yet finished. We plan to finish this analysis by the end of M13. The second test is planned for M16. This Chapter describes the setup of the tests and preliminary results of the first test.

4.1 What we test with users and why

As described in paragraph 2.1 *Working towards a complete platform in an iterative process* we are working towards the final version of the OSN in an iterative process. Now that version 1 of the OSN is ready, it is time to proceed to design and build version 2.

Version 2 will improve the first version, and functionalities that focus on helping users to design their own Open Schooling will be added. To understand what needs to be improved and added, we will test version 1 with teachers. The user-tests aim at getting relevant input from potential users of the OSN, that will help us to decide which improvements and additional functionalities have to be designed and built to make the most valuable version 2 of the OSN.

We are performing two tests with the first version of the OSN; one in M13 (test 1) and one in M16 (test 2).

In the first test the focus is on getting answers to the following questions:

- **Q1 - Presentation LSs**
  Do users consider the current presentation of the 8 LSs from pilot phase 1 accessible and valuable? What elements about the way they are presented should be improved?
- **Q2 - Finding relevant LSs**
  Does the filter option to select relevant LSs supply sufficient guidance? What should be improved?

- **Q3 - Needs in using LSs**
  How do users envision using LSs? Should LSs be adaptable to make them your own? Which parts of the LSs should be adaptable (which elements of a LS are subject to context and/or culture)? What level of freedom/ restriction is desirable?

The second test will focus on getting answers to the following questions:

- **Q4 - Information about Open Schooling and OSN**
  Do users understand what Open Schooling is when using the OSN? Do they understand what the OSN has to offer?
- **Q5 - Needs in support to start working with Open Schooling**
  How can we trigger users to start working with Open Schooling and to explore Open Schooling on a deeper level? What information and inspiration about Open Schooling has to be added to do so? What is the role of the LSs in this?

4.2 Who test users are

To get answers to the questions presented above, we will perform tests with different groups of teachers.

4.2.1 Test 1: Teachers from 1st pilot phase

As a start, we have asked the teachers that have been executing the 1st pilot phase to test the prototype. These teachers know exactly what kind of information can be found in the LSs and therefore they could best assess the presentation of these LSs in version 1. Therefore, this group of teachers has mainly provided us with answers to Q1, Q2 and Q3.

Since these teachers also know about the basics of Open Schooling, they could also reflect on the value of the OSN to support them and/or other teachers in doing Open Schooling. This will help us to understand what the focus of the test with novice teachers (see below) should be, in order to get answers to Q4 and Q5.

4.2.2 Test 2: Novice teachers

To learn more about how the OSN can trigger educators to start Open Schooling, we will also perform tests with teachers that are new to Open Schooling. These novice teachers will help us to understand to what extent the information about Open Schooling as presented in the first version of the OSN, helps them in understanding what Open Schooling is. And since these teachers are not yet focussed on LSs and LUs, their input will also be very helpful to decide which functionalities can be added to make the OSN the valuable guide in Open Schooling we want it to be. In other words: they will give insight into what needs to be added to the first version of the OSN, in order to make it more than a platform that presents LSs and LUs in a clear and accessible way.

This group of teachers will mainly provide us with answers to Q4 and Q5. Their input will also give more insight in Q1, Q2 and Q3.

4.3 How we do user tests

4.3.1 Test 1: test with pilot teachers

To get input from the teachers from the 1st pilot, we performed online tests and interviews with 10 teachers from different countries:

- 1 teacher from the United Kingdom
- 2 teachers from Poland
- 3 teachers from Israel
- 4 teachers from The Netherlands

4.3.1.1 Test 1 - setup

Testing the OSN was done by **task based usability testing**: the teachers were guided through the OSN by asking them to perform tasks. Teachers were asked to follow the **think-aloud protocol** while performing these tasks: participants are asked to say whatever came into their mind when completing the task. This could include

what they were looking at, thinking, doing, and feeling. During and after performing the tasks, we asked questions about their experience with using the OSN to dig deeper if relevant.

We used Microsoft Teams to meet with the teachers. Teachers visited the OSN on their own computer and shared their screen with us, so we could see in real time what they did and saw. In total 9 meetings were done, 2 teachers performed the test and were interviewed in the same meeting.

4.3.1.2 Test 1 - protocol

The following tasks/questions were given to the participants of the tests:

- Task: 'Take 5 minutes to explore the OSN and share your first impression in 3 words.' This task was aiming at getting a general idea about how teachers perceive the OSN
- Task: 'Select a LS and LU of your interest and explain why you chose them.' This allowed us to learn what information is of main interest in selecting a LS/LU and to learn what works well for them and what does not work well.
- After finishing this task, we asked the teachers what they liked about the presentation of the LSs and LUs and what could be improved. Question: 'How would you grade the OSN as a supporting tool in doing OS?' We asked this question to learn how teachers value the OSN as a tool to support them in doing OS.
- Question: 'What improvements and/or additions could add to this grade?' To gain input for the next steps that have to be taken in further development of the OSN, we asked teachers what could be improved about the OSN to support them (even) better in doing OS.

4.3.2 Test 2: test novice teachers

The setup and protocol for the tests/interviews with novice teachers still has to be designed. At this moment, we are analysing the results of the tests/interviews with

the pilot teachers. This analysis will help us to understand which focus we have to put in the tests/interviews with novice teachers.

4.4 Preliminary results of test 1 with pilot teachers

Since analysis of the test with the pilot teachers is currently still work in progress, this paragraph presents a *first impression* of the results of these tests.

Q1 - Presentation LSs

Do users consider the current presentation of the 8 LSs from pilot phase 1 accessible and valuable? What elements about the way they are presented should be improved?

Preliminary answer:
In general, we can state that teachers understand how to find the LSs/LUs and that the presentation of the LSs/LUs is helpful in scanning the information that is offered to decide if LSs/LUs are relevant for their own students/context. Two responses from pilot teachers:

"The Navigator offers small steps to do big things."

"I feel comfortable, the information was ordered, nice hierarchy, I could easily find things"

We also learned about possible improvements, such as the need for more pictures in the presentation of LUs to illustrate steps to take in the LUs better. This how one of the pilot teachers expressed it:

“It’s a lot of text, pictures would help to see more quickly what activities will be done in these steps.”

Q2 - Finding relevant LSs

Does the filter option to select relevant LSs supply sufficient guidance? What should be improved?

Preliminary answer: Most teachers try using the filters and they understand how to use the filters. One of their responses:

"I filter by ages 12 to 16, also a bit lower and higher than my own students' age, because I can always up or down the level."

At the same time, we notice that when looking for a relevant LS/LU for their own students/context, teachers mainly browse the LSs/LUs by scanning titles and subtitles, looking for specific topics of interest like ‘waste’, ‘forces’ or ‘creation’. And since there are only 8 LSs in the current version of the OSN it is possible for them to scan the complete set of LSs this way.

“I select this one because waste is a topic we have been talking about in class.”

In the next version, there will be more LSs available, which will increase the relevance of a filter. When designing the next version of the filters, we will also keep in mind the goal of the OSN is to support teachers to start OS. Therefore we plan to look for possibilities to put more focus on OS indicators (e.g. locations outside school, local partners, format, etc) in the design of the filters.

Q3 - Needs in using LSs

How do users envision using LSs? Should LSs be adaptable to make them your own? Which parts of the LSs should be adaptable (which elements of a LS are subject to context and/ or culture?)? What level of freedom/ restriction is desirable?

Preliminary answer:
Some teachers like the idea that the LSs/LUs can be used directly in their own lessons, but in general we can state that most pilot teachers envision using the LSs/LUs mainly as inspiration. Responses from test users include:

"When using a recipe book, I open the book, I look at the recipe, and I close the book. I will do the same with this navigator."

"As a teacher you translate the manual to your own class. This is what a teacher does. I am more motivated if I can put my own experiences into my lessons."

This raises the question if adding functionalities to customize LSs/LUs is relevant. The first impression after the tests is that it is more valuable to focus on adding functionalities that help teachers to build their own Open Schooling, using the LSs/LUs as inspiration when relevant. We want to test this point of view in more detail with the novice teachers.

Q4 - Information about Open Schooling and OSN

Do users understand what OS is when using the OSN? Do they understand what the OSN has to offer?

Preliminary answer: Pilot teachers did not show particular interest in the information about OS that is offered by the first version of the OSN. They were very much focussed on the LSs and LUs.

"I'm here for the LSs and that's what I see.
I mainly want a lot of examples that I can use in my lessons.
The information about Open Schooling I know already."

We will have to test this with the novice teachers to get valuable answers to this question.

Q5 - Needs in support to start working with Open Schooling

How can we trigger users to start working with Open Schooling and to explore Open Schooling on a deeper level? What information and inspiration about Open Schooling has to be added to do so? What is the role of the LSs in this?

Preliminary answer: Since the pilot teachers already had an introduction to OS by working on their own LSs, they could reflect on their first steps in OS. An interesting insight we gained during the tests/interviews is that the teachers that were completely new to OS at the start of the pilot were a bit "afraid" of starting OS, because it sounded so "different" and "big" and "unpredictable". By working on their LSs, these teachers experienced that OS is not as scary as they thought it would be. And in the end they all very much valued the positive impact of OS on their students. This is how 2 pilot teachers formulated this experience:

"Before I started this Open Schooling project, I thought it would be difficult. I thought it would be hard to organise getting students out of school and to organise people to collaborate. But it was less hard than I thought and I saw the positive impact on the students."

"I'm a starting teacher so everything is new and 'scary'.
Open Schooling was extra scary because of the extra unknown factor.

I also thought it might impede regular teaching. But now I've done it, I don't agree with that idea anymore. Everything that takes students out of the normal is welcome."

We will use this insight to design new functionalities that can be added to the OSN, which will help educators to start OS.

4.5 User test 2

The second user test will be done with novice teachers (they are new to the project and/ or new to OS entirely), to get answers to Question 4 and Question 5 as described in paragraph 4.1 What we test. Waag will involve the 6 other consortium partners to interview 20 - 35 teachers from at least the 6 different countries partners operate from. These interviews will be planned in M16.

Following the 2nd user test Waag will host a co-creation session with all 7 consortium partners to translate findings into solutions to be created in version 2 of the OSN. This co-creation session will be held in M17. If traveling to one of the partner locations is feasible in Feb 2022 we will do this co-creation session as part of our first live meeting as a consortium.

5. Development process

Waag has identified four sprints of development of the OSN between M10 and M24. This development process was presented in Deliverable 3.1 *Content framework with defined requirements and parameters*, *paragraph 2.2.2 Sprint planning*. Sprint 1 as discussed in that paragraph is by now finished and the results of it are described in this Deliverable. This chapter presents an overview of the next sprints and describes the alignment with the rest of the project planning.

5.1 Planning next sprints

5.1. Sprint 2

Sprint 2 will be finished in M19, this is the end of the duration of *task 3.3 developing the Open Schooling Navigator*, which ends in the launch of the OSN, a project milestone. The majority of the functionality will be in place, the navigator will meet the description of Task 3.3: *Developing the OSN.*

In addition to the improved functionality of version 1 it will:

- contain all 16 Learning Scenarios developed in both pilot phases combined
- trigger and help users to explore the LSs deeper
- help users to adapt the LSs to their own context
- invite users to make new LSs
- add yet undefined functionality to help users start OS (the strategic use case)

The potential users of version 2 of the OSN, are teachers and educators in Europe and beyond interested in Open Schooling, as it will be a public launch.

In this sprint Waag will be involving BMSJ, CSC, Forth, TLTL and Ecsite more closely in the creation of the content, starting with conducting the second user test of novice teachers followed by a co-creation session. This is explained in more detail in paragraph *4.5* User Test 2.

5.1.2 Sprint 3 and 4

To develop Sprint 3 Waag will work with the following users: teachers and educators involved in Task 4.2 *Open Schooling Hubs in Operation* (via partners and third parties). They are the people working on projects in 15 schools in each of the 10 countries we reach as partners and third parties. Sprint 3 and 4 will be planned by M18 at the latest. The execution of Sprint 3 starts from M19, when the OS Hub activities start too, and teachers have been onboarded.

Figure 12 below is a visual overview of the four sprints, the functionality offered in each sprint and the questions for users to test current and future functionality.

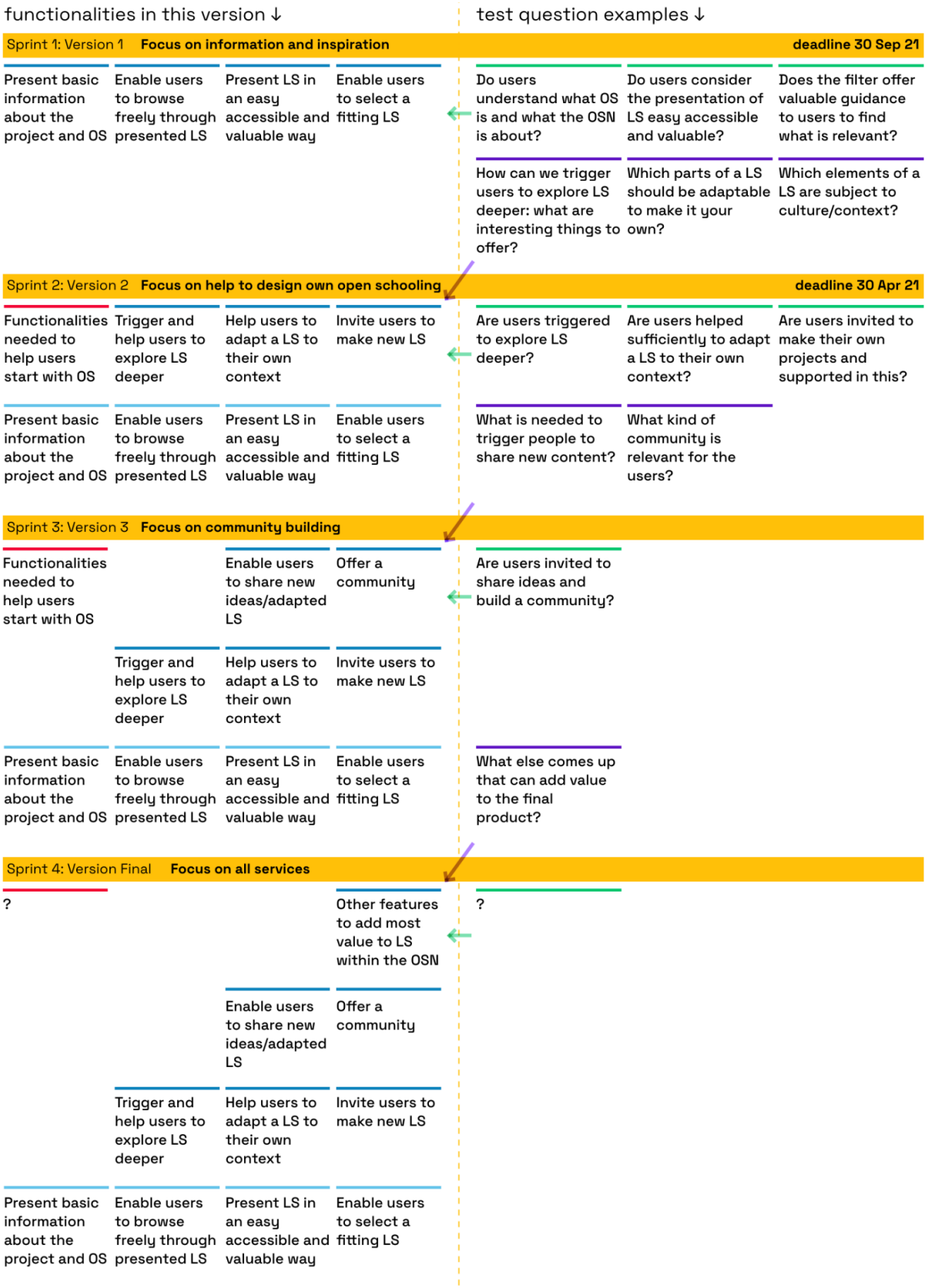

Figure 12: Process overview of the creation of the OSN in sprints

5.2 Alignment with rest of project planning

We are closely working together with WP1 and WP2 to align the work that is done and the products that are delivered within these work packages, because they are the major two inputs for the OSN.
The OSN, in turn provides the main content platform for scaling up Open Schooling, which is done in WP4 Open Schooling Hubs.

5.2.1 Alignment with WP1

Content for downloadable materials is developed in WP1, and is one of the two important content inputs for the OSN. This means the development of these materials is planned parallel to the second test of the prototype of the OSN and that we can use the final downloadable materials as input in the design of version 2 of the OSN.

5.2.2 Alignment with WP2

The LS's developed in the pilots of WP2 are the other important content input for the OSN. Therefore sprint 1 was delivered after the first 8 LS's were ready. Designing and testing the presentation of the LSs in the OSN gives input to optimise the setup of the LSs. For example: it is possible that we learn from the test that indicators of Open Schooling, such as format, locations to visit, local partners to collaborate are important to offer as help teachers to quickly find LSs of relevance. To be able to offer this kind of help within the OSN, it is best if these indicators are described by a limited set of options. This kind of information is important to share with WP2, in order to receive LSs from the 2nd pilot phase that can be used to full value in the OSN.

The test phase of the prototype of version 1 of the OSN was planned parallel to the 2nd pilot phase in WP2, so that the pilot teachers working on LS's could be our first user-test group, to test the OSN prototype.

5.2.3 Alignment with WP4

Task 3.3 *Developing the Open Schooling Navigator* will be complete in M19. This is the completion of Sprint 2 of the OSN. This is the same month as the start of Task 4.2: *Open Schooling Hubs in Operation*.