

Awareness and Requirement Report

Work Package 1

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TABLE OF CONTENTS

Authors	3
TABLE OF CONTENTS	5
1. INTRODUCTION	6
Work Package 1	6
2. AWARENESS WORKSHOPS	7
Methodology	7
Key Findings	8
1. Preferable conditions for sharing ideas	8
2. Contextual issues: Why to share, whom to share with, where to share?	9
3. Structuring and supporting idea sharing	10
3. INTERVIEWS.....	10
Methodology	11
Key Findings	12
1. Experience in collaborative idea development and open education practices.....	12
2. How would you collaborate and whom would you share your ideas with in an ideal world.....	13
3. Key Barriers	13
4. Online Platform	13
Summary of the results.....	14
4. REQUIREMENTS	14
5. CONTEXT SCENARIOS.....	15
5.1 Collaborative Course Development in Higher Education.....	16
5.2 Collaborative Course Development for a Visiting Teaching Staff from the Industry	20
Reflection on context scenarios	24
6. SUMMARY AND NEXT STEPS	24
7. ANNEXES.....	26
A) Links to awareness workshops' report and raw data.....	26
B) Links to interviews' report and raw data	26

1. INTRODUCTION

The project Open Educational Ideas and Innovation (OEI2) deals with new ways for learners and educators to share and collaborate on educational resources. Currently there are millions of resources for basically all subjects, education level, sometimes even available in many languages. However, they are not used as intended: There are still many barriers towards the uptake of Open Educational Resources (OER). The main goal of OEI2 project is finding alternatives for increasing the uptake of OER by educators and learners, and facilitating the collaborative development of OER. We aim at achieving this by engaging users in early stages of the OER development process: When courses or program developments are started.

Over the period of the entire project, we will focus on answering questions like: How can we overcome the current motivational barriers and lack of trust of users towards OER? How can we engage users in collaborative processes with simple and intuitive tools? How to create new collaborations in an open idea sharing and innovation process? How to build new forms of open education with high quality, sustainable ways in a cost-effective way?

Work Package 1

In work package one (WP1, Leader: ESCP), we discussed the new concept with potential users: Learners and educators. In a series of awareness workshops followed by interviews, we discussed the concept and gathered at the same time requirements to improve the initial concept. The main objective of this work package is to prepare the user community for the new idea and approach and creating engagement in the community. We aimed at receiving initial feedback regarding the approach and gathering further requirements.

In order to achieve our goals for this work package, we focused on two tasks:

1. Awareness Workshops

The project aims at creating new ways of collaboration and mobility, creating teaching partnerships, and sharing ideas at very early stages. As this is not a usual process for educators, awareness and engagement of the approach need to be raised. As a starting point for user engagement, six workshops corresponding to the project partners communities or networks were organized in the target countries with potential users: Finland, Germany, Greece, Lithuania, and Belgium. The main outcome of the task was to create engagement of initial user groups who will later participate in the validation and trials (WP4).

2. Interviews: Requirements Collection

This task built on the previous studies of barriers and success factors and identified success factors from educators and learners to engage in the project. The requirements have been collected in a form of twelve interviews that took place in each of the target countries. The main outcome is a clear understanding which barriers can occur when educators collaborate using the OEI approach. We also addressed users' ideas how to overcome these barriers.

The main overall output of the WP1 is a common deliverable of context scenarios and requirements gathering. This deliverable contains the reports gathered from our awareness workshops and interviews (methodology, requirements and insights, and feedback and recommendations). This deliverable provides a clear understanding which requirements educators have towards the OEI approach.

2. AWARENESS WORKSHOPS

Our awareness workshops covered the following aspects: (1) Introducing open education and practices around it, (2) group discussion on how participants have been dealing with open education and OER, (3) introducing the key concepts of open educational ideas, (4) group discussion on topics around OEI and their potential context-related issues and key barriers. Among others we asked the participants: What context would support people to start collaborating on an idea development? When do you think intentional and conscious feeling of “emotional ownership” can be better created and under which conditions? What are the externalities enabling or prohibiting idea sharing? How should the process of idea-generation be documented to enhance the reuse of it?

Methodology

A total of 6 workshops were organized within March 2014 from which 4 took place face to face and 2 were managed as online events through Adobe Connect conferencing system. The face to face workshops were organized with local University participants in ECSP Europe-Germany, NCSR-Greece, VMU-Lithuania, and DHBW-Germany. The online events were facilitated by JYU-Finland and EFQUEL-Belgium with international participants around Europe. Altogether 64 participants took part in the workshops that were organized in form of focus group sessions. Participants of the sessions were professors, heads of departments, lecturers, professionals, teacher trainers, researchers, project researchers and PhD students. All of the workshops were planned and organized with a unified methodology and approach. The basis for the empirical investigation within the focus groups was set by cross-disciplinary literature research on organizational knowledge sharing, focusing also on motivational and idea sharing related issues.

Each session was organized as follows:

1. Introducing open education and practices around it.
2. Group discussion on how each of the participants has been dealing with open education and OER. Any collaborative practices around OER were discussed as well as developing courses together with peers and educator communities. Both of these were used as an example to consider sharing educational ideas that materialize to new resources and offerings.
3. Introducing the key concepts of open educational ideas.
4. Group discussion on the following topics around OEI: Whom would you share your educational ideas with? In which situation would you share your ideas? How would you share the ideas? Which tools would you prefer? What is the best way to express new ideas and innovations? How would you structure your collaboration process? For each of the topics, potential context-related issues and barriers were discussed.

The discussions were recorded and analyzed for the purpose of our project. The analysis followed the qualitative content analysis guidelines by Mayring (2000). Qualitative content analysis is an empirical, methodological controlled analysis that follows a set of rules and step by step models. The analysis was accomplished by deductive category development as the objectives and aims of the study were derived from existing literature on knowledge sharing. In Table 1, we summarize the demographics of the awareness workshops. In the following section, we present the key findings from our awareness workshops.

TABLE 1: DEMOGRAPHICS OF THE AWARENESS WORKSHOPS

Workshop	Instrument	Duration	# of Participants	Role

JYU Workshop	Adobe Connect	120 min	25	Educators and Learners
ESCP Workshop	Face to Face	120 min	5	Educators, Learners, and Industry
NCSR Workshop	Face to Face	180 min	7	Educators and Learners
VMU Workshop	Face to Face	120 min	10	Educators and Learners
DHBW Workshop	Face to Face	240 min	9	Educators, Learners, and Industry
EFQUEL Workshop	Adobe Connect	105 min	8	Educators and Learners

Key Findings

The key findings from the awareness workshops can be categorized to topic areas. Firstly, there are common patterns identifiable under which conditions and situations educators would share their ideas. This includes contextual issues, whom they are likely to share with, where this would take place and so on. Thirdly, commonalities can be seen how educators would like to structure their idea sharing process and the tools they would use for doing so.

1. Preferable conditions for sharing ideas

The perceptions of the educators in the higher education context point out that sharing ideas is highly dependent on the work environment and field you work in. We can differentiate organizations that are by policies and strategies set towards openness and transparency. When a certain practice is part of everyday work (paid for doing so) and rooted in the sharing culture of an organization, it is likely to be followed. Such examples are organizations that e.g. provide all of their educational materials openly for wider publics, attached with a creative commons-scheme. Situations when educational ideas are most likely to be shared can be identified. The approaches incorporate push (idea you want to create movement around) or pull (crucial question or request that creates movement).

Likely situation for pushing an idea:

- When there is a need to develop a new course or practice
- The idea has some innovative elements
- The idea enables new collaborations and networks

Likely situation for pulling towards ideas:

- When under time pressure / need to set up a course or teaching offering quickly
- When expertise and inputs from others are needed to build on top of own ideas

Preferable conditions for responding to the request could be expected when the request comes from 1) trusted colleague or 2) a respected person known by a good reputation. The actual collaboration will differ in both settings as in the first case actors are familiar with each other and are likely to collaborate on an open manner. Educators are also more likely to join collaboration if there are immediate benefits.

What educators actually share, and what they could imagine sharing varies quite a lot. Educational idea in the context of higher education is easily connected to educational resources or learning offerings such as full courses. Simultaneously, educational ideas can be research oriented (open data), towards new innovative technologies or potential projects and initiatives. However, to enable reciprocity, simplicity of contribution should be acknowledged. The respondents saw that ideas could be presented simply as textual descriptions, outlines or drafts but highly depending on individual preferences. Some prefer mindmaps, while others enjoy questions that trigger ideas. Educators would like to learn and would embrace the concept of valuable failures, while such are not commonly shared.

2. Contextual issues: Why to share, whom to share with, where to share?

Key barriers: Why to share, what is in it for me?

The analysis revealed several barriers related to the higher education context. The educational landscape is mostly still very competitive and knowledge and fresh ideas are often kept to oneself. Educators might wonder “why to prepare a joint course or mutual development in general?” or “why to take part in such a process initiated by someone else?” Many of these concerns and perceptions are influenced by the educational settings where collaboration and openness are not common practices. Many educators felt that colleagues would fear criticism from peers if they would share their course materials openly. Either they expect comments such as “your material is outdated” or “scientifically low standard”. Fearing losing one’s original ideas is another concern to collaborative work; “we do not know who will use our own idea just for his own personal benefit”. Lack of Information literacy skills with educators was seen as one general theme and too often students are ahead of their teachers. The participants elaborated whether a teacher can nowadays survive without being a digital scholar. Teachers need to move with the societal changes and update their practices. Can they actually survive in a longer run without being open to share?

To overcome some of these barriers knowing the person the idea is developed with would reduce reluctance to knowledge sharing. Taking the lead in the process boosts motivation as well. Collaborative course development could be useful in order to support different pedagogical perspectives for collaborative development of course curricula etc. One of the great opportunities was seen in the possibility for extended collaboration that is more than just sharing few ideas here and there – Strategic partnerships. The participants of the workshops elaborated how educators have to be open one day and how personal development and learning requires getting fresh perspectives and innovative ideas from the community. Peer-reviewing ideas and providing feedback in each step that you take is a matter of quality and can be very beneficial in a long run.

Whom would you share with?

When sharing educational ideas, educators are most likely to start the sharing process in a trusted environment with existing personal relationships. From the idea sharing practices inspected within the focus groups, sharing in a safe and close community with close colleagues was a practice that everyone was engaged in already. Such sharing only takes place if all the actors within such environment can be seen trustworthy. Sharing with such people reduces the chance that somebody would literally steal your idea. Someone whose reputation and merit stands for itself might qualify for such trusted network as well. Only more experienced people on open education saw that sharing ideas with the relevant community would be done directly from the start. Others saw the need to initiate in a closed environment.

Idea sharing and the process it initiates were generally seen similar to collaboration in projects: Trying to find motivated partners that will keep the collaboration ongoing. While community feedback and development were seen beneficial in the later stages when ideas mature, the role of students and industry

were seen crucial as well, especially when discussing teaching and skill development where students are the ones targeted.

Where would you share?

What becomes clear from the opinions and perceptions of the educators is that sharing ideas is extremely demanding to initiate on a larger scale. Sharing of initial and rough ideas might not be technology-mediated. Rather than putting rough ideas on display for online communities, idea development, whether it is about a new course or a new service, is most likely to take place firstly in discourse with close colleagues. Technology might not play a role within such step at all but at the same time can be crucial for facilitating the collaboration. The place for sharing ideas was often seen to take place face-to-face or in informal discussions where the discourse shapes our thoughts and leads to new ideas. Typical location for such is at the office coffee break or an evening out with colleagues. However, based on the topic and context, idea sharing can initiate in an academic or non-formal online network as well in Research Gate, Google+, Twitter, Facebook, LinkedIn and so on. This depends highly on the level of publicity and awareness you want to reach. Posting an idea and announce it to a large audience of unknown people is not suitable for most participants. The key factor was seen in utilizing tools and networks that your collaborators already use. However, for an environment to build on ideas, educators are not expecting one-single-solution that can handle everything but a good way to bring the components together as there are already applied tools for different purposes and tasks.

3. Structuring and supporting idea sharing

There are multiple ways how educators would see idea generation to happen. Approaching idea generation as a project and learning from other domains such as open source development were seen beneficial. For such collaboration or a project around an idea, participants should be able to enter the collaboration at any time of the process. Even late entries to collaboration might be successful, as people might still contribute a lot. However, idea sharing should not be seen as an open-ended process. People do need deadlines, otherwise the collaboration and engagement is always postponed. The idea sharing was seen to possibly develop from early ideas (discussions) to drafts and elaborated outcomes and courses. In such collaboration, one needs to get different types of contributions for each phase and someone needs to have a holistic overview (Leader) how to proceed and keep in the timeframe. In such collaborations, it is essential to have some form of an agreement on what one is expected to do. When discussing openness, contributions from small to big can be beneficial: Commenting, providing peer-review for different phases when ideas develop and mature to actual educational artefacts, defining outlines, leading the collaboration and so on.

Key arguments for collaboration around educational ideas and movement towards openness were especially developing partnerships and long-term collaborations. As facilitators of such movement, the participants saw the bottom-up approach in a key role - educators leading by example. However, the role of projects and initiatives as builders of awareness were seen important as well.

3. INTERVIEWS

Our interviews covered the following aspects: (1) Participants' experience on collaborative idea development, (2) participants' preferable scenario of developing an idea and sharing it with others in an ideal world, (3) key barriers that hinder idea sharing or collaborative development of open educational contents, (4) discussion on our proposed approach of sharing open educational ideas on an online platform to find further collaborators. For instance, we asked the participants to describe how their preparation on an OER took place. Among others we also asked: How would you collaborate and whom would you collaborate with in an ideal world? What are the key barriers against the ideal collaboration on collaborative idea development? What would you expect the online platform to do for you what functionalities should such a platform have in your opinion?

Methodology

As stated before in this report, the focus of our research in this project is mainly on higher education. Therefore we conducted several interviews with lecturers and researchers from different higher education institutions in Europe. The participants of our twelve conducted interviews cover a wide spectrum of roles, such as, professors, PhD candidates, project managers, consultants, operation managers, and lecturers. Our interviewees belong to one of three groups according to their experience in OER; part of them have wide experience in creating and sharing OER, others have heard about OER and are interested in using and sharing it, and some of them do not have any experience on OER or are not aware of the OER concept. It is worth mentioning that we conducted seven interviews face-to-face, and five interviews were conducted online via Skype or Adobe Connect conferencing system. The average duration of the interviews was 65 minutes, where the minimum duration was 22 minutes and the maximum duration was 180 minutes. We followed a unified protocol in our interviews to ensure coherence and comparability. In Table 2, we summarize the demographics of our twelve conducted interviews.

To ensure the consistency with the awareness workshops, the analysis of our recorded interviews followed the qualitative content analysis guidelines introduced by Mayring (2000). In the following section, we present the key findings from our interviews.

TABLE 2: DEMOGRAPHICS OF THE CONDUCTED INTERVIEWS

Interview	Instrument	Duration	# of Participants	Position	OER Experience
JYU Interview 1	Adobe Connect	70 min	1	PhD Candidate	Part of global OER network
JYU Interview 2	Adobe Connect	55 min	1	Lecturer/University Staff	Running a group working on OER and integrating OER to education systems
ESCP Interview 1	Face to Face	22 min	1	PhD Candidate	No experience
ESCP Interview 2	Face to Face	23 min	1	University Professor	Interested in OER
NCSR Interview 1	Face to Face	50 min	1	University Professor	Interested in OER
NCSR Interview 2	Skype	50 min	1	Operation Manager	Open education specialist and OER researcher
VMU Interview 1	Face to Face	49 min	1	Project Manager	Open education specialist

VMU Interview 2	Face to Face	29 min	1	Project Researcher	Expert in creating and sharing OER
DHBW Interview 1	Face to Face	150 min	3	University Professors	No experience
DHBW Interview 2	Face to Face	180 min	1	Project Manager	Interested in OER
EFQUEL Interview 1	Skype	45 min	1	Project Manager / Consultant	Member of expert group education and OER expertise
EFQUEL Interview 2	Adobe Connect	50 min	1	Digital Teaching Coordinator	OER expert

Key Findings

In this section we present the key findings from our twelve interviews. These include educators' experience in collaborative idea development and open education practices. Additionally, we gathered insights on how would educators collaborate and whom they would share their ideas with in an ideal world. Essential insights on the key barriers, which hinder idea sharing or collaborative development of open educational contents, are also discussed in our key findings. Finally, we verified our proposal of an open educational platform with our interviewees and gathered the main insights on the main functionalities of this platform.

1. Experience in collaborative idea development and open education practices

The insights we gathered from our interviews show that the collaboration on developing an OER is typically driven by three factors; (1) workload balance, (2) working with leading people in the field, (3) reaching otherwise restricted resources. However, these factors are typically not enough for educators to get engaged in more open initiatives with other educators they do not know. Typically, educators practice the exchange of ideas with other educators in a closed, more or less protected environment and very often just verbally. Our participants emphasized the necessity of having dynamics and diversity in the networks of involved educators when creating resources that will be opened in the future.

The diversity in the team of content developers is vital to incorporate best practices from other universities, other countries, or other educational systems. This great feature can be easily achieved by having a platform that is open for international users. Having this diversity in the content development team can have impact on the acceptance of the course and can widen the variety of course's participants. Having these diverse viewpoints will enrich the experience of everyone involved in the course and will have a positive impact on the quality and achievements of the course.

Corporate policies and regulations represent the main obstacles against collaborative development of OER. For instance, one of our participants reported that at their institution they have a policy and strategy in E-Learning that allow them to share ideas and courses with colleagues within the institution and various faculties, but not openly with other institutions and internationally. Similar policies are sometimes enforced by industry partners. For instance, another participant reported that their knowledge and experience are often based on practical experience in the world of work, and they are not willing to share

that in an open source. This is also not what their industry partners are expecting from them. Another related obstacle is the competition among private educational institution, because the material of their courses is one of their key assets and competitive advantages.

2. How would you collaborate and whom would you share your ideas with in an ideal world

The human factor is fundamental in collaborative contexts, and therefore it is one of our goals to gather insights on how educators collaborate and whom they share their ideas with. The analysis of our interviews reveals three main concerns. Trust appears on the top of educators' concerns when it comes to collaboration and sharing. Although educators typically have intense exchange of documents, scripts, or ideas with trusted and known colleagues, they resist the idea of sharing their resources with externals due to the lack of trust. One of the main principles of open educational platforms is to provide the required mechanisms to establish trust among educators so that collaboration among them can take place.

Professional experience is expected to eliminate several constraints with respect to trust. Most of our interviewees find it acceptable to collaborate with domain experts and leading professionals without having prior personal relationships with them. Discussing initial ideas with domain experts is expected to be fruitful and time-effective, because such domain experts can provide key inputs quickly and concisely. Therefore, we recommend getting leading experts on board to attract more educators to join.

Collaborating with collaborative educators is a key concern in the context of sharing open educational content. For instance, one of our interviewees expressed that she hesitates to provide work she have spent weeks to generate for others and for nothing. Most educators expect the others also to collaborate with them on their idea discussion and content generation rather than just consuming their generated content.

3. Key Barriers

Through our interviews, we gathered essential insights on the key barriers, which hinder idea sharing or collaborative development of open educational contents. The main two barriers against collaborative content development are: Trust and personal relations, and lack of awareness of open educational opportunities and advantages. Idea owners prefer collaborating with trusted, reputable, and experienced partners. Additionally, most of the collaborative initiatives start with a group of people, who know each other personally. Towards enriching the experience and content of open education initiatives, collaboration with people known online should be supported and enabled in a controlled environment that removes any anxiety.

Being aware of open educational opportunities and advantages is important to motivate educators to search for and get involved in collaborative content development initiatives. Additionally, educators tend to evaluate such collaboration situations in terms of the direct benefit they can get therefrom. For instance, if the educators cannot touch direct benefit for them, they might not be motivated to get involved in that collaboration.

4. Online Platform

The generation of users born in the world of Web 2.0 and grown up with social networks is willing to share whatever they have already done through an online platform. This observation boosted our proposal of developing an end-to-end online platform that enables the sharing and generating of ideas up to the delivery of the content to learners. We verified this proposal within our interviews and we gathered additional important insights that enrich our proposal. Within this platform, educators can present their preliminary ideas to other educators, who in turn can help the idea owners sharpen their ideas so that they become suitable for online courses. Additionally, interested educators can also support the process of generating the content and even the delivery of the content. This setting is known as "crowdsourcing" open education.

Extended profiles: The users of this online platform represent its main asset; therefore, it should provide comprehensive information about its members of educators and learners in the form of extended profiles. In addition to their profile pictures, resumes, locations, and backgrounds, extended profiles include other information, such as expertise, ratings of earlier contributions, connections to other educators in the community, etc. Most of this information can be imported from professional networks (e.g., LinkedIn) to simplify users' on boarding. Then, this information will evolve as the users get engaged in more activities. This platform takes into account the different user-perspectives and provides the corresponding entry points for each user group. Furthermore, this platform must be open at every stage and allow people to join in early stages or later on during an open education initiative.

A unified communication channel: As collaboration among members is one of the design principles of this platform, there should be a considerable focus on providing all the required communication channels in a unified way. For instance, the platform should enable educators to comment, send IMs, do videoconferences, and engage into lively discussion within the platform. A situation where educators use their mailboxes, diverse IMs, external videoconference tool to discuss their education initiative should be avoided. The platform enables its members to comment on ideas and get engaged into a lively discussion to improve the education initiative and provide high-quality content.

Technical features: It is important that the platform offers an authoring tool, which also supports the author choosing the right metadata, based on which useful connections between the content and the courses can be created. Simple and intuitive content presentation is also crucial to enable members to navigate quickly to the material they are interested in. To guide and speedup the process of content generation, the platform provides a tool with some templates and forms for developing material, separating modules of the course, etc. Furthermore, the platform should provide a matrix-based summary of deliverables, milestones, and evaluation criteria in order to make sure that everything is clear.

Summary of the results

Both techniques that we used in our methodology compliment each other. The workshops represent the entry point to the topic, where we discussed the overall topic and identified the main barriers in the context of OER. Then, we used the interviews to investigate each of these issues in detail with interested parties to find out their perceptions on collaborative idea generation.

Additionally, in our workshops we validated our approach regarding increasing re-use of OER, e.g., by adopting collaborative idea generation practices and therefore, the concept of emotional ownership. Whereas, in our interviews, we introduced the idea of having an online platform for sharing ideas and collected the interviewees' early feedback on it so that it becomes successful when we implement it in upcoming steps.

Both the awareness workshops and the interviews showed an increasing interest and awareness on OER but at the same time, the lack of collaborative practices and re-use of OER. Both data collection efforts lead to the understanding how higher education can be a strict practice where openness and collaboration for joint efforts is challenging to succeed. However, the analysis shows how in certain circumstances such collaboration can happen. Especially in situations where long-term benefits can be reached but there is instant personal and professional motivation at place, individuals could jump on the collaborative idea generation. Such situations often are encountered in face-to-face settings, such as in big events. It is crucial that OEI2 can facilitate the process once the seed for collaboration is planted.

4. REQUIREMENTS

As expressed previously within this document, collaborative practices on open education and idea sharing were somewhat new to the participants, and their requirements and needs were mainly based on their own vision and assumptions on what is needed. However, the initial requirements can be summarized as:

TABLE 3: HIGH-LEVEL REQUIREMENTS FOR OEI2 PLATFORM

Requirement Statement
The portal shall offer the possibility to create ideas from scratch
The portal shall offer the possibility to join someone else's idea
The portal shall offer the possibility to search and join someone else's idea
The portal shall offer the possibility to request another person to join the idea
The portal should be the central place and a hub for collaborative idea generation with a strong focus on OER development from idea to the complete course
The portal shall offer or link to place for finding existing OER to re-use
The portal shall offer or link to a professional profile of the user (most important is to identify the country, institution, role, previous experience and objectives for further collaborations)
The portal shall offer support to the users by the means of tool suggestions for collaborative OER development
The portal shall offer support to the users by the means of guided steps to create ideas in a collaborative manner
The portal will be flexible and let collaborators apply the tools they are already using for collaborative work
The portal shall be easily customizable for users own preferences to build on ideas collaboratively (to modify the guided approach)
The collaborators should be able to communicate through multiple options such as commenting, chatting, conferencing.
The portal shall offer multiple options for brainstorming of which users can select what best fits their needs
The portal should offer possibility to integrate social networks and other social media services in to it
The portal should offer way to highlight and share the outcomes of the idea
The portal shall offer a matchmaking service that allows users find likeminded collaborators and relevant ideas
The portal shall offer a way to keep the collaboration private and open it up when seen relevant
The portal should offer support and tools for multilingual versions of the outcomes (e.g. when OER is created in collaboration)

It is crucial to point out that the wishes and opinions of the potential users are still highly subjective to change once they get to use the implemented platform. This is likely to happen because of the lack of an existing tool for idea sharing and the lack of previous engagement to collaborative practices around OERs. However, these high-level requirements can serve as a start of the development of the first version of the collaborative environment of OEI2.

5. CONTEXT SCENARIOS

This section describes the initial context scenarios for OEI2. These context scenarios describe the process of collaborative idea generation and the according tools for it. The scenarios also include detailed actions the users should be able to conduct within the collaborative environment. From the previous collaborative efforts of the participants of the workshops and interviews as well as from the consortium, 2 context scenarios could be identified.

5.1 Collaborative Course Development in Higher Education

Abstract

Context: This scenario shows how OEI can support educators to develop courses in a collaborative way in different languages. It includes critical aspects like feedback from students and industry.

Roles: Educators, company representatives, students.

Barriers: Lack of awareness, lack of trust, resistance to openness, lack of technical knowledge.

Plot

A professor at XYZ University needs to develop a new course. Especially in rapidly changing disciplines and subjects such as Information Technology or Management this happens very often: New topics or new requirements from industry emerge almost every year. Professor X, however, has only limited resources to develop courses in the summer break. He immediately considers two alternatives. The first is to use a textbook as guidance. However, due to the new topic, no textbooks are on the market yet which would fulfil his requirements. Secondly, he looks for Open Educational Resources (OER) which might reduce the efforts of course development. Here, Prof. X is not sure about the quality – there seem to be a lot of resources but on first sight they do not seem to fit – some are just in English, some are used for different target groups. Now, Prof. X becomes aware of www.idea-sharing.eu which supports collaborative course development.

Collaborative environment: *Prof X registers to the portal. He comes to the page with profile information and describes his interests, position and experiences OR/AND adds a link to his profile on LinkedIn. He comes to the main page and adds an idea - he decides to use one of the templates "Collaborative Course Development" - this generates 4 **stages** (possibly as own pages) and the according navigation structure (in this case the stages include 4 **items**: initial idea, outline, development, evaluation). He goes to the first page - all fields are collaborative objects (etherpads) as default.*

Stage 1: Initial Ideas

As a first step, he tries to describe the initial ideas and requirements.

Collaborative environment: *OEI provides a short template (etherpad) – [for future development: this could be also done as a mindmap containing branches with the main elements or using a word doc including headers for each element]. The author goes through the etherpads and describes the initial idea consisting of the following items. Notice: etherpads would have pre-filled content and structure as well.*

Item 1: Description

NOTE: The items marked as <> in the etherpad or as mouseover when clicking the item title.

What is the course all about? What is the broad topic? What are the main aspects to be covered?

Example:

The goal of this document is to facilitate the process of collaborative course development for IS students (2nd year, 4th semester) for the topic of IT Service Management. The course development is done in English for sharing purposes, the course language is German.

Item 2: Target group

Briefly describe the characteristics, requirements and preferences of the target group.

Example:

Undergraduate students of Business Information Systems, in 4th semester, in Bachelor track.

Item 3: Course Objectives

Describe the main objectives you would like to achieve in the course. This can contain very broad competencies students shall achieve.

Example:

The main objective of the course is to introduce students to the concept of IT service management - as part of overall IS management activities, services need to be planned, designed and implemented. Students should be able to utilize in particular ITIL as a best practice framework and adapt it to specific contexts.

Item 4: Prerequisites

Describe the prerequisites which you foreseen for the target group.

Example:

A) Foundations of Business Information Systems B) Software Engineering

Item 5: Constraints / Standards

Which discipline / industry standards might have to be considered?

Example

- AIS: IS Bachelor 2010:
<http://www.acm.org/education/curricula/IS%202010%20ACM%20final.pdf>
- ITIL 2011: http://wiki.de.it-processmaps.com/index.php/ITIL_2011

As a result of stage 1, Prof. X thought of 2 interested colleagues. One colleague has already given a course in English on the same subject. Another colleague has the intention to teach a similar course. Both have raised their interest and promised to contribute to a certain extent.

Collaborative environment: *Prof. X invites them to the OEI portal using their email. He uses the invite function where either an existing user can be chosen from a list or the user email is given. After a check (user / user email is already existing?), either an existing user is chosen or the email is sent. Hopefully, they register and reply that they have some interest using the commenting function of the portal. The inviting person is informed that the invitees have registered by a notification appears to own profile or sent to their email if they have ticked the box in their own profile page "send notifications to my email: X". The group now edits the document in the etherpads or in an external editor (such as mindmap or google doc).*

All three colleagues agree to develop a common outline and provide ideas on the topic. They agree to use a collaborative editor (google docs) to continue the development.

Stage 2: Outline

In the initial phase, only rough ideas were presented. Now these need to be refined.

Collaborative environment: *A second page is now worked on (etherpad is created using the OEI template). This contains the main categories for the outline (which is similar to syllabus descriptions). The collaborative editor also allows editing and commenting. The colleagues also agree to have a short discussion synchronously whenever they are online together using the chat.*

They develop the following outline collaboratively:

Item 1: Course Objectives

NOTE: The items marked as <> in the etherpad or as mouseover when clicking the item title.

Please describe the refined course objectives – this should be in line with module descriptions in the course syllabus.

Example:

The main objective of the course is to introduce students to the concept of IT service management - as part of overall IS management activities, services need to be planned, designed and implemented. Students should be able to utilize in particular ITIL as a best practice framework and adapt it to specific contexts.

Item 2: Learning Outcomes

Please describe the learning outcomes. After the course, students should be able to...

Item 3: Didactical Concept

Please describe the key aspects of the didactical / instructional design.

Example:

The course will be mainly done in a face to face setting, 3h lectures and 2h exercises per week (15-17 weeks total).

The main concepts are:

- Lectures: Elaborating concepts
- Guiding questions: Reflecting on key concepts through the lectures in group discussions
- Interactive exercises: Group work to apply main concepts (e.g. specifying SLAs)
- Case study: Practical application in a realistic setting

Item 4: Course Plan

The following table shows the main contents, learning activities as well as potential references (book chapters, papers, etc.) and OER to be used for the course development.

Please comment or add whenever you have good ideas for refinement, activities, and sources.

#	Title / Titel	Contents / Inhalte	Learning methods / Lernmethoden	References / Materials Referenzen / Materialien	

1	Einführung / Introduction: IT Service Management	<ul style="list-style-type: none"> - Begrüßung / Welcome - Vorstellung der Arbeitsgruppe / Introduction to workgroup - Vorstellung, Abfrage von vorherigen Erfahrungen und Erwartungen / Discussion of previous experiences and expectations - Organisatorisches / Organizational - Basiskonzepte / Basic concepts: Information Management, Services, Process Management, IT Governance, Application Development - Services in everyday life: Identify services used in everyday life - who provides them, how are they available (e.g. dropbox, mailing, messaging, ...) - Reflection: presentation by students, guiding questions for initial course unit 	<ul style="list-style-type: none"> - Presentation - Discussion of experiences (self-presentations) - Presentation - contextualization / relating to known and similar concepts - Initial exercise & discussion - Reflection 		
2	Informationsma nagement und Services	<ul style="list-style-type: none"> - Aufgaben des Informationsmanagements – von der Strategie zur Implementierung (Wertschöpfung, QM, ...) - Relation of IT Management / IT Governance / IT Architecture / IT SM 	<ul style="list-style-type: none"> - Video of CIO - Discussion on key tasks of CIO, middle management 	<ul style="list-style-type: none"> - Slide set “Grundzüge Wirtschaftsinformatik”, relevant slides for IT management - Service management 	

This table thus serves as the guideline for course development. The outline is shared with two groups: A students’ representative is asked whether the course makes sense or has redundancies to other subjects. Secondly, an industry representative provides feedback on the relevance for practical application. After this feedback, the course outline is refined.

Collaborative environment: Now, the group is extended. The admin invites new partners to the discussion group (using the invite function). Technically, the document is shared with students and industry representative. They comment online using the commenting function. For each comment, the admin should receive a notification! Admin may choose to run some activities in social networks (twitter etc.) and assign an appropriate hashtag for the idea. The discussion going on under the hashtag could be shown on the idea page by enabling a twitter feed with the corresponding hashtag. This enables the admin and the collaborators to see what is currently discussed there without leaving the idea page. Similar options are available for Facebook groups and visualizing the discussions in the idea page if the admin wants to enable it. The colleagues agree on who will produce which part.

Stage 3: (Course) Development

Each colleague has volunteered to develop 5 units for the course.

Collaborative environment: Everyone uses empty PowerPoint slides without a fixed design. These are again shared through google drive, so each colleague can see the results immediately. This means

technically that the admin creates one link to each document or a link to google drive where the PowerPoint slides are stored. Besides, one colleague develops assessments, and another one develops a case study. The materials created here are the common base for further development. Also, the outline will be shared with the community in an OER repository.

In the last phase, each colleague adds specific aspects (for their local community, students groups) and design (corporate identity). One colleague translates also the main contents into a local language.

Stage 4: Evaluation

After the courses are run, people add a short analysis.

Item 1: Experiences and Feedback

All users provide their experiences (as etherpad or as comments).

Item 2: Follow Up

The group discusses and agrees on changes that should be made based on the feedback gathered.

Summary

This context scenario is based on a real-life example for collaborative course development. For all colleagues, the process has been very beneficial. They have received great ideas, have gotten recommendations for materials to use (OER, references, etc.), and they even have received initial validations through peer feedback. Last but not least, they have received initial students' and industry's feedback. Overall, the process was helpful, created creative solutions and saved many resources.

5.2 Collaborative Course Development for a Visiting Teaching Staff from the Industry

Abstract

Context: This scenario shows how OEI can support visiting teaching staff and guest lecturers to develop courses in collaboration with other guest lecturers and professors from different institutions, by contributing actual case studies from the world of work, business simulation material and management methods.

Roles: Managers, industry leaders, company representatives, guest lecturers, HE teachers.

Barriers: Lack of trust, lack of awareness, starting point differences, differences of expectations and business background.

Plot

A R&D manager at the IT Company XYZ is acting as a guest lecturer at a higher education institution. He needs to develop teaching material for a new course, based on the curriculum designed and provided by the HE institution and management. As the head of R&D, the manager works in a competitive environment where the industry is acting in short cycles: New topics, new technologies, software and hardware emerge all the time and change within months and not years as in other industry segments.

The R&D manager, however, has only limited resources to develop courses in parallel to his workload in the company. He immediately considers two alternatives. The first is to use course material available in internet repositories or IT textbooks. However, due to the new topic, no textbooks are on the market yet which would fulfil his requirements. Secondly, he searches for Open Educational Resources (OER) in the USA which might reduce the efforts of course development. Here, manager X is not sure about the content and quality and is overwhelmed by the number of different resources and styles, often misses the theoretical background and link to the theoretical part of the colloquium design.

The R&D manager knows that the institution has 9 campuses in different cities. In other campuses the same topic is lectured by another visiting lecturer from a different company. The manager becomes aware of the OEI2 idea space which supports collaborative course development. Manager X registers to the portal. He then comes to the page with profile information and describes his management background, position and experiences and adds a link to his profile on XING. Afterwards he returns to the main page and adds an idea, which is based on the requirements of the curriculum provided from the university. He decides to use one of the templates “Collaborative Course Development”. This generates 4 stages and the navigation structure (in this case: Initial idea, outline, development, and evaluation).

Stage 1: Initial Idea

As a first step, the manager describes the teaching content based on the curriculum design and the initial ideas and teaching methods he has in mind. OEI provides a short template and a list from other visiting lecturers within the institute, but also from other universities with the same IT program.

Item1: Description

What are the curriculum requirements? What is the course all about? What is the broad topic? What are the main aspects to be covered? What are the theoretical topics and professional/practice oriented topics?

Example:

The goal of this document is to facilitate the process of collaborative course development for visiting lectures in higher education institutions in the IT industry for the topic of using case studies and business simulation software as course material in their teaching practice. The course development is done in English for sharing purposes, the course language is English, but may be adapted, at least partially, to the needs of other languages.

Item 2: Target Group

Briefly describes the characteristics, requirements and preferences of the target group.

Example:

For senior managers and experts in the IT industry with teaching practice at HE institutions, who are open to share their teaching materials and their teaching practices with industry peers. For professors, who have a professional background in IT practicing besides their theoretical teaching and also professional-oriented teaching.

Item 3: Course Objectives

Describe the main objectives you would like to achieve in the course. This can contain very broad competencies that students shall achieve.

Example:

The main objective of the course is to introduce learners to wide possibilities of different IT tools and methods of their usage in their teaching practice. The learners should be able to use different IT tools, software and virtual learning environments in their teaching practice in different educational contexts.

Item 4: Prerequisites

Describe the prerequisites which you foreseen for the target group.

Example:

A) Management skills, industry experience, guest lecturer skills. B) Basic IT skills. C) English language skills.

Item 5: Standards/Constraints

Which discipline/industry standards have to be considered?

Example:

The course would be performed in English. The learning methodology comprises methods of active, collaborative and self-organized learning, and while focusing on experience-based learning methods, including but not limited to, simulation-based learning, scenario-based and problem-based learning.

As a result of phase 1, Manager X contacts 5 other visiting lectures, who belong to the same IT industry regionally but also internationally. They have experience in teaching and have contacts to different universities and IT professors and have enthusiasm to create such a course and gather new ideas for their own courses. They share their gained experiences with other colleagues.

Manager X invites them to the OEI portal via email. Peers or professors with the same function or same professional background (e.g. software developer) are invited where either an existing user can be chosen from a list or the user email is given. After a check (user / user email already existing), either an existing user is chosen or the email is sent to the colleagues that Manager X knows are connected in social networks (XING, Facebook, LinkedIn). The group now edits the document in the etherpads or in an external editor (such as mindmap or google doc). All the colleagues agree to develop a common outline and provide ideas on their teaching topics. They agree to use a collaborative editor (google docs) to continue the development.

Stage 2: Outline

In the initial phase, ideas were presented – what kind of experience-based learning methods, simulation-based learning, scenario-based learning and problem-based learning exists.

A second page is now worked on (etherpad is created using the OEI template). This contains the main categories for the outline (which is similar to syllabus descriptions). The collaborative editor also allows editing and commenting. The colleagues also agree to have a short discussion synchronously whenever they are online together using the chat. They start developing the outline collaboratively.

Item 1: Course Objectives

Please describe the refined course objectives. This should be in line with module descriptions in the course syllabus.

Example:

The main objective of the course is to introduce learners to wide possibilities of experience-based learning methods based on different IT tools and methods, which the industry is using in the R&D divisions. The learners should be able to use simulation-based learning or scenario-based learning with a real case background and an actual industry context.

Item 2: Learning Outcomes

The learning outcomes reflect essential knowledge, skills and attitudes related to the specific professional requirements, but should not be limited to this. In addition, students acquire professional and life skills which enable them to act successfully, in an innovative and self-organized way in a changing work environment. The involvement of students in research, development and innovation activities leads them to better professional practice.

Item 3: Didactical Concept

The learning content is productively integrating theory and practice as the basis for complex problem-solving in real work situations. The content is informed by the latest research, trends and references from both the world of work and academia.

Example:

The main concepts are

- Lectures: presentations and webinars
- Guiding questions: Reflecting on key concepts through the lectures in group discussions
- Interactive exercises: Group work to apply main concepts
- Case study: Practical application in a realistic setting

Item 4: Course Plan

The following table shows the main contents, learning activities as well as potential references (book chapters, papers, etc.) and OER to be used for the course development.

Title: Introduction to technology enhanced learning conceptual approach

Contents: Introduction of concepts, definitions and trends in IT

Learning methods: Experience-based learning methods, IT- simulation based learning methods, problem-based learning (PBL), or any other authentic learning situations.

References/Materials: Industrial scenarios, videos provided by the company

This serves as the guideline for course development. The outline is shared with two groups: A professor, as a respective representative, is asked whether the course makes sense or whether it has any redundancies to other subjects. Secondly, an expert of IT that provides feedback on the relevance for practical application and the learners' perspective. After this feedback, the course outline is refined.

Now, the group is extended. The admin invites new partners to the discussion group (using the invite function). Technically, the document is shared among the learners' professors and industry experts. They comment online using the commenting function. For each comment, the admin should receive a notification! The admin may choose to run some activities in social networks (for instance, twitter) and assign an appropriate hashtag for the idea. The discussion that goes on under the hashtag could be shown on the idea page by enabling a twitter feed with the corresponding hashtag. This enables the admin and the collaborators to see what is currently discussed without leaving the idea page. The colleagues agree on who will produce which part.

Stage 3: Course Development

The learning content is productively integrating theory and practice as the basis for complex problem-solving in real work situations. The content is informed by the latest research, trends and references from both the world of work and academia.

Example:

The professor from the institution provides his academic- and theoretical-based teaching material. Another colleague develops assessments and another one develops a case study. The materials created here are the common base for further development. Also, the outline will be shared with the community in an OER repository.

In the last phase, each colleague adds specific aspects (for their local community / learner groups) and the design (corporate identity). One colleague translates also the main contents into his local language.

Stage 4: Evaluation

After the courses are finished, people add a short analysis.

Item 1: Evaluation Results

All users provide their experiences (as etherpad or as comments).

Item 2: Follow Up

The group discusses and agrees on changes which should be made based on the feedback.

Summary

For all visiting lectures acting as colleagues or peers from the institution's perspective, the process has been very beneficial. They have received great ideas, have gotten recommendations for materials to use (OER and references), and they even have received initial validations through peer feedback. Last but not least, they have received initial learners' and expert feedback. Overall, the process was helpful, created creative solutions and saved many resources.

Reflection on context scenarios

The identified context scenarios present two slightly different collaborative idea generation processes. However, we can see that the structure of the process was similar in both. The structure was inquired within our interviews and workshops and further refined based on the inputs for the context scenarios from the consortium.

These context scenarios present an initial process for idea generation that is further studied in WP2 (processes for idea generation) and used by WP3 in the collaborative environment as templates for collaboration. Within our validation efforts (WP4), we will study whether the context scenarios with the according process actually support the flow of ideas as users expect them to. The pilots and active usage of the collaborative environment is envisioned to lead to identification of further context scenarios. We do foresee context scenarios out of real collaborative idea generation focusing on industry collaboration, bridging from higher education to schools and to vocational training and to student collaboration.

6. SUMMARY AND NEXT STEPS

Our research indicated that educators do see the benefits and need to be engaged to collaborative actions on developing educational resources and activities, even on a global scale. Our findings showed that the previously attempted approaches of providing tools and services for re-use and adaptation of OER do serve a need. But at the same time, educators did emphasize that such approaches are not yet facilitated properly.

We researched the incentives to share ideas in the early stages and collaboratively develop an open educational content. To enhance the experience of the users of open education, we conducted six awareness workshops organized in the target countries and twelve interviews from different European academic institutions to gather additional insights from their experience. In this report, we presented our key findings based on these workshops and interviews, and outlined some recommendations for the next open educational platform.

With respect to the participants' experience in collaborative idea development and open education practices, the insights we gathered showed that the collaboration on developing an OER is typically driven by workload balance, working with leading people in the field, and reaching otherwise restricted resources. Additionally, we gathered insights on how educators collaborate and whom they share their ideas with. Trust was the most important issue for educators in the context of collaboration and content sharing. Nevertheless, our study revealed that professional experience can eliminate several constraints with respect to trust. Furthermore, educators expressed their preference of collaborating with collaborative educators when sharing open educational content.

We also gathered essential insights on the key barriers, which hinder idea sharing or collaborative development of open educational contents. A key barrier was seen to be that the educational landscape is mostly still very competitive and knowledge and fresh ideas are often kept to oneself. Additionally, trust and personal relations, lack of awareness of open educational opportunities and advantages, and fearing losing one's original ideas are other concerns to sharing ideas and are considered of the main barriers against collaborative content development.

To overcome some of these barriers, knowing the person the idea is developed with would reduce reluctance to knowledge sharing. Taking the lead in the process boosts motivation would serve this purpose as well. Moreover, collaborative course development could be useful in order to support different pedagogical perspectives for collaborative development of course curricula etc. One of the great opportunities was seen in the possibility for extended collaboration that is more than just sharing few ideas here and there – Strategic partnerships. Additionally, peer-reviewing ideas and providing feedback in each step that you take is a matter of quality and can be very beneficial in a long run.

We verified our proposal of crowdsourcing open educational platform with our participants and interviewees and gathered main insights on the functionalities of this platform. We found that the following three functionalities are crucial to the users: Extended profile, unified communication channel, end-to-end tool chain.

In our next steps, we will incorporate the insights we gathered from our awareness workshops and interviews into our online platform about open education, which is currently upon the process of launching (WP3), and validate it with several groups of educators and learners (WP4). We will come up with implementable techniques that approach the main concerns, limitations, and problems that our participants and interviewees expressed. We will also target increasing the awareness of open education advantages and opportunities in the community (WP5), e.g., through cooperation with universities, conferences, etc. As a central research topic, we will also continue our efforts of investigating the barriers against the adoption of open education in different contexts and environments to cater for them in our innovative platform, and keep creating good practices and recommendations on how to support the concept of emotional ownership (WP2).

7. ANNEXES

A) Links to awareness workshops' report and raw data

Subject	Link on Google Docs
Awareness workshops report	https://docs.google.com/document/d/1jIS9hDmNBWYpfYzCEgrr_xGNUudzunarN7oZ00v4FyU/edit?usp=sharing
Awareness workshops questions	https://docs.google.com/document/d/1n5URaxac1vpK389jSl7TkxTUuafG9sWaZ3wM5wkl8o4/edit?usp=sharing
JYU awareness workshop	https://drive.google.com/folderview?id=0B-60mWGwj7TKNHpUNUo2RDJCb0U&usp=sharing
ESCP awareness workshop	https://drive.google.com/folderview?id=0B0l7vxMhglLba1dTREI3WVZOWDg&usp=sharing
NCSR awareness workshop	https://drive.google.com/folderview?id=0B0C6Dtfoteq-UEJaMjBzTEFWZXM&usp=sharing
VMU awareness workshop	https://drive.google.com/folderview?id=0BzHwQgfffxNX0VuOXpPd0hFb28&usp=sharing
DHBW awareness workshop	https://drive.google.com/folderview?id=0BzRtp6293begWWhDakhpMGNwRXM&usp=sharing
EFQUEL awareness workshop	https://drive.google.com/folderview?id=0B9mhoaj80dzJRXdaTUU0UU9LbjQ&usp=sharing

B) Links to interviews' report and raw data

Subject	Link on Google Docs
Interviews report	https://docs.google.com/document/d/1lWXy9ZbSovo_FtyLbAURc8QcxDaErVVP9ZBel1fjffs/edit?usp=sharing
Interviews questions	https://docs.google.com/document/d/12i8033SSlvMJsLyilAd0JSY6DXYBO_F-lthVx7WOq1k/edit?usp=sharing
JYU interviews	https://drive.google.com/folderview?id=0B0l7vxMhglLbUGh3bTYzV1FnNkE&usp=sharing
ESCP interviews	https://drive.google.com/folderview?id=0B0l7vxMhglLbYWc0NFJESHIYYzA&usp=sharing
NCSR interviews	https://drive.google.com/folderview?id=0B0l7vxMhglLbcVVTTHZLWF9qY1U&usp=sharing

VMU interviews	https://drive.google.com/folderview?id=0B0l7vxMhgILba3h1S183bFpncVE&usp=sharing
DHBW interviews	https://drive.google.com/folderview?id=0B0l7vxMhgILbWnZXZDFoOG5wcWs&usp=sharing
EFQUEL interviews	https://drive.google.com/folderview?id=0B0l7vxMhgILbeldRZlM1RmNfZjA&usp=sharing