

A.1 Idea-Space: A Use Case of Collaborative Course Development in Higher Education

*Safa'a AbuJarour¹, Jan Pawlowski², Markus Bick¹,
Migle Bagucanskyte³, Anna Frankenberg⁴, Raimund Hudak⁴,
Constantinos Makropoulos⁵, Dimitra Pappa⁵, Vassilis Pitsilis⁵,
Henri Pirkkalainen⁶, Anne-Christin Tannhauser⁴, Elena Trepule³,
Aristedes Vidalis⁵, Airina Volungeviciene³*

¹ *ESCP Europe Berlin, Business Information Systems Chair, Germany*

² *Ruhr West University of Applied Sciences, Germany*

³ *Vytautas Magnus University, Lithuania*

⁴ *Duale Hochschule Baden Württemberg, Germany*

⁵ *National Centre for Scientific Research, Greece*

⁶ *University of Jyväskylä, Finland*

1 Introduction

A key component of Open Education movement are Open Educational Resources (OER), which are defined as any digital objects that are commonly shared in online repositories and can be freely accessed, reused and adapted by a community of users for educational purposes using an open license scheme [3, 8]. This broad definition includes a lot of different artefacts, such as digital learning objects, software tools like wikis or authoring systems, electronic textbooks, and lesson plans. Existing research on OER has focused on how to make digital objects available and re-usable for educators and learners [5]. Currently, there are millions of resources for basically all subjects, education level. However, their adoption has been limited, the consumption of them is passive, and there are still many barriers towards the uptake of OER [4, 6]. Amongst those, are the not-invented-here syndrome and the lack of involvement and recognition of users who feel that they do or cannot contribute appropriately. In our research, we focus on tweaking the steps that are accomplished before having the resources complete and shared. In particular, in situations when ideas are initiated, shaped, and shared with like-minded people in order to create new educational outcomes, such as OER [2].

OEI2-Project

The main goal of Open Educational Ideas and Innovations (OEI2) EU-project is finding alternatives for increasing the uptake of OER by educators and learners, and facilitating the collaborative development of OER [2]. The main idea of our approach is to *emotionally attach* educators to OER by engaging them at an early stage of the OER development process, when the resources are still in the ideation phase. This engagement is enabled through our proposed collaboration platform “Idea Space” [2], where educators can collaboratively create and shape ideas of OER [7]. This platform is described in this paper from an application point of view, by showing a typical use-case that describes its functionalities.

In this paper, we introduce our collaborative open educational “Idea-Space” platform in section 2. Then, we present a use-case about developing a course about IT Service management in section 3. We summarize our paper in section 4.

2 Idea Space

Idea Space (www.idea-space.eu) is an online collaborative platform encouraging collaboration in early stages and sharing new ideas, before resources are complete. In particular, in situations when ideas are initiated, shaped, and shared with interested parties in order to create new educational outcomes, such as OER, open e-textbooks, MOOCs, etc. The front page of Idea Space platform is shown in Figure 1.



Figure 1: Idea Space Front Page (www.idea-space.eu)

We introduced the requirements gathered and discussed the conceptual work that were accomplished through a series of workshops and interviews in the paper by AbuJarour et al. 2014 [1]. Based on these results of the workshops and interviews, the Idea Space collaboration platform for idea sharing in open educational contexts was created. We validated Idea Space with several groups of educators and learners, and came up with implementable techniques that are designed to enable and support collaboration throughout the entire OER lifecycle, and discussed these validations in the paper by and AbuJarour et al. 2015 [2]. *Ideas* represent basic entity of this space. Registered users can initiate ideas or join the development of existing ideas.

The basic functionalities of our platform are [1]:

- **Idea Posting and Sharing:** Providing educators the possibility to create new ideas (courses, materials, documents, etc.) that they can subsequently share with other interested peers.
- **Idea Search:** Enabling users to search for ideas based on several criteria, e.g., topic, educational level, language, country, etc.
- **Idea Development:** Providing a refined innovative, but yet simple to use, collaboration space where ideas can be discussed, designed and developed towards OER. The collaboration space includes functionalities to structure the idea to several activities, to write collaboratively, to comment on others contributions, and to use video conferencing within the collaborative documents.
- **Idea Administration:** Idea owners and administrators can edit idea fields (e.g., title, description, idea visibility) and also add more idea members (collaborators) either from existing portal members or by inviting (via email) non-registered colleagues, delete participants or refine idea member's roles.
- **OER Repository:** Including a wealth of collected OER for business and management in addition to the published OER that come out of our platform.

3 Use Case: IT Service Management

In this section, we describe an initial use case for collaboratively developing an OER. It shows a typical case for educators: Developing a course. Our example shows a course development on IT Service Management for Higher Education. A screen shot of the idea sharing on developing this course from the Idea Space is shown in Figure 2.

The screenshot shows the 'Idea Space' interface for a course creation project. The header includes the 'idea-space' logo and navigation links: 'Open educational Ideas', 'Share your idea', 'Find OER', 'Project site', 'News', 'Language: English', and 'Log in'. The main title is 'Course Creation: IT Service Management for Bachelor Students' started by 'jan.pawlowski'. A 'Join' button is visible.

The interface is divided into several sections:

- Initial Ideas (5):** A sidebar menu with options: Description, Target Group, Course Objectives, Prerequisites, and Constraints / Standards.
- Outline (4):** A sidebar menu with options: Course Objectives, Learning Outcomes, Didactical Concept, and Course Plan.
- (Course) Development (1):** A sidebar menu with the option: Course Development.
- Evaluation (2):** A sidebar menu with the option: Evaluation.

The main content area is titled 'Description' and includes a 'Posted by jan.pawlowski 2 months ago' header with an 'Initial Ideas' button. The description text asks: 'What is the course all about. What is the broad topic, what are the main aspects to be covered?'. Below this, a grey box contains the following text: 'The goal of this activity 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. Ziel des Dokuments ist die Begleitung einer neuen Kursentwicklung für Wirtschaftsinformatiker im 4. Semester zum Thema "IT Service Management". Die Planung wird bi-lingual durchgeführt, Kursprache ist deutsch.'

The 'Target Group' section is also visible, with a 'Posted by jan.pawlowski 2 months ago' header and an 'Initial Ideas' button. The text asks: 'Briefly describe the characteristics, requirements and preferences of the target group'. Below this, a grey box contains the text: 'Undergraduate Students of Business Information Systems, 4th semester Wirtschaftsinformatiker; Bachelor, viertes Semester'.

Figure 2: Idea Sharing on Developing a Course IT Service Management

The Case

A professor needs to develop a new course. In rapidly changing disciplines and subjects, such as Information Systems or IT Management, this happens frequently: New topics or new requirements from industry emerge almost every year. This professor, 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 fulfill his requirements. Secondly, he looks for Open Educational Resources (OER) that might reduce the efforts of course's development. Nevertheless, the professor is not sure about the quality! There seem to be a lot of resources but on first sight they do not seem to fit. The professor then becomes aware of Idea Space, which supports collaborative course development. After creating a profile, the professor, creates an idea using a predefined template for "Collaborative Course Development". Using this template, 4 stages are generated for developing a course, in which each includes 4 items. Stages and items are editable and could be customized based on the flow for his course.

Stages and Items

Stage Items	Stage 1: Initial Ideas Firstly, the professor describes the initial idea that consists of the following items:
Item 1: Description	What is the course all about? What is the broad topic? What are the main aspects to be covered? <i>Example:</i> 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 collaboration purposes. However, the course language will be held in German.
Item 2: Target group	Briefly describe the characteristics, requirements and preferences of the target group. <i>Example:</i> Undergraduate students of Business Information Systems, in 4th semester, and 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. <i>Example:</i> 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, and 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. <i>Example:</i> Foundations of Business Information Systems, Software Engineering.
Item5: Constraints / Standards	Which discipline/industry standards might have to be considered? <i>Example:</i> AIS: IS Bachelor 2010, ITIL 2011

As a result of stage 1, the professor thought of two 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. The professor decided to invite them to Idea Space to contribute to the course development idea. After registering of the two new users to Idea Space, all three colleagues agree to develop a common outline and provide ideas on the topic.

Stage	Stage 2: Outline In the initial phase, only rough ideas were presented. Now these need to be refined. They develop the following outline collaboratively including these items:
Item 1: Course Objectives	Describing the refined course objectives. This should be in line with module descriptions in the course syllabus. <i>Example:</i> 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	Describing the learning outcomes: “After the course, students should be able to...”
Item 3: Didactical Concept	Describing the key aspects of the didactical / instructional design. <i>Example:</i> The course will be mainly done in a face-to-face setting, 3h lectures and 2h exercises per week (15-17 weeks total).

Item 4: Course Plan	The main contents, learning activities as well as potential references (book chapters, papers, etc.) and OER to be used for the course development.
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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.

After the end of stage 2, the group is extended. The professor and his colleagues invite partners to discussion group, where they can discuss and comments. As a result, the colleagues agree on who will produce which part of the course.

Stage Items	Stage 3: (Course) Development
Item 1: Development	Each colleague has volunteered to develop 5 units for the course. These are shared through the Idea Space, so each colleague can see the results immediately. Besides, one colleague develops assessments, and another one develops a case study. The materials created here are the common bases 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 Items	Stage 4: Evaluation
	After the courses are run, people add a short analysis.
Item 1: Feedback	All users provide their experiences.
Item 2: Follow Up	The group discusses and agrees on changes that should be made based on the feedback gathered.

4 Discussion

The presented case study aims to validate our hypothesis that emotionally attaching educators to their OER increases the uptake of open educational resources. We validated this hypothesis through a case study from the field of higher education that is executed through our implementation of the Idea Space platform. This case shows that our proposed concept of emotional ownership works in practice. The educators were engaged into the idea development through our idea space, which has been reflected into the completion of the initial goal of developing a course on “IT Service Management”. The value of our idea space is considerable, in particular for physically distributed collaborators. This added value enriches the content of such developed ideas, because of the diversity in the involved teams, which in turn results in high quality content and material. The result of the case study is a course that is being offered at the university according to the discussion done through the Idea Space

This approach has a huge potential in several domains, in particular where there is low competition among the involved parties, such as educational institutions. For instance, it can be used nationally among schoolteachers to develop OER for their students. In contrast, in domains with high competition among the involved parties – such as companies – our approach can still be used within constrained communities or under certain agreements among the involved parties. The main point that must be agreed on in such cases is the ownership of IP rights. Clear agreements must be signed by all involved parties to avoid conflicts in later stages of the OER development.

5 Summary

Open Educational Ideas (OEI) is a project that is linked to the Open Education movement and deals with new ways for learners and educators to share and collaborate on educational resources, by engaging them at an early stage of the OER development process, when the resources are still in the ideation phase. In this paper, we proposed our collaboration platform “Idea Space”, where educators can collaboratively create and shape ideas of OER. We also introduced a use case

that is based on a real-life example for collaborative course development. For all engaged colleagues, the collaboration 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. In our presented use case, we also described the process of collaboration, the according tools for it, and the final outcome. This use case also included detailed actions, which could be used by the users to be able to conduct within the collaborative environment, Idea Space (www.idea-space.eu).

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Literature

[1] AbuJarour, S., Bick, M.; Pawlowski, J.; Volungeviciene, A.; Trepule, E.; Bagucanskyte, M.; Pirkkalainen, H; Ehlers, U.-D.; Hudak, R.; Makropoulos, C.; Pappa, D.; Pitsilis, V.; Vidalis, A.; Tannhauser, A.-C. (2014): *Enhancing the Experience of Online Users of Open Education*. The International Conference on Web & Open Access to Learning.

[2] AbuJarour, S., Pirkkalainen, H., Pawlowski, J., Bick, M., Bagucanskyte, M., Frankenberg, A., Hudak, R., Makropoulos, C., Pappa, D., Pitsilis, V., Tannhauser, A.-C., Trepule, E., Vidalis, A., Volungeviciene, A. (2015): *Design Principles for Collaboration Platforms for Open Education*. the International Conference on Computer Supported Education.

- [3] Davis, H. C., Carr, L., Hey, J. M., Howard, Y., Millard, D., Morris, D., and White, S. (2010): *Bootstrapping a Culture of Sharing to Facilitate Open Educational Resources*. IEEE Transactions on Learning Technologies.
- [4] Hatakka, M. (2009): *Build It and They Will Come?—Inhibiting Factors for Reuse of Open Content in Developing Countries*. The Electronic Journal of Information Systems in Developing Countries, 37.
- [5] Hyl'en, J. (2006): *Open Educational Resources: Opportunities and Challenges*. Proceedings of Open Education, pages 49–63.
- [6] Ochoa, X. and Duval, E. (2009): *Quantitative Analysis of Learning Object Repositories*. IEEE Transactions on Learning Technologies, 2(3):226–238.
- [7] Pirkkalainen, H. and Pawlowski, J. (2014): Collaborating on ideas: *Tackling Barriers to Open Education*. In Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2014, Tampere, Finland.
- [8] UNESCO (2002): *Forum on the Impact of Open Course-ware for Higher Education in Developing Countries*. UNESCO.