How to Promote the Use of Open Educational Resources (OER) in Higher Education. A Parley with OER Experienced Teachers

DANIEL OTTO ⬚

ABSTRACT

The idea of Open Educational Resources (OER) is nowadays widespread in higher education. However, notwithstanding their supposed benefits, the actual adoption of OER in teaching remains low. Due to this absence, various studies have primarily focused on (the lack of) OER awareness among teachers and identified barriers to their use. This article argues that the current debate could benefit from insights from those who are already using OER in their teaching practices. Examining their perspectives can disclose measures that promote the adoption of OER. A mixed-method approach was applied that comprised an expert survey among 32 OER experienced higher education teachers in Germany, which results were then subject to a focus group discussion with 20 of them to validate and differentiate the results. Overall, the results reveal that teachers prefer measures comprising incentives and support rather than obligations. Exemplarily, a commitment to publish all materials as OER was rejected. Instead, a more fundamental transformation was requested from closed to open practices. Therefore, it can be stated that the teachers underlying path is guided by a desire for a shift towards openness in higher education. The measures favoured by the teachers can thus be understood as essential puzzle pieces that contribute to the bigger picture of openness.

CORRESPONDING AUTHOR:
Daniel Otto
University of Duisburg-Essen, Germany
daniel.otto@uni-due.de

This paper received the **Best Paper Award** at the *ICDE Virtual Global Conference Week 2021: Upskilling and upscaling for quality Open, Flexible and Distance Learning (OFDL)* during the week of 25–29 October 2021, related to the conference theme: *Upskilling and Upscaling for Open Education and OER: Evolutions for Open Education and Open Learning Ecosystems*. The contribution was preselected for publication in *Open Praxis*.

INTRODUCTION

The idea of Open Educational Resources (OER) has become widespread in education all over the world. Since the term was initially coined by the UNESCO's Forum on the Impact of Open Courseware for Higher Education in Developing Countries (UNESCO, 2002), OER has evolved as a central element of open education (Bozkurt et al., 2019; Zawacki-Richter et al., 2020). Although no canonical definition exists, in its latest report the UNESCO defines OER as being

> *"learning, teaching and research materials in any format and medium that reside in the public domain or are under copyright that have been released under an open license, that permit no-cost access, reuse, re-purpose, adaptation and redistribution by others"* (UNESCO, 2019, p. 3 f.).

Therefore, the potential of OER is that they permit the 5R activities –the right to retain, reuse, revise, remix and redistribute teaching and learning materials (Wiley, 2016; Wiley & Hilton, 2018). Based on these 5Rs, teachers are empowered to develop open, collaborative, and sustainable teaching and learning scenarios. These prospects of OER have manifested in the two follow-up concepts of Open Educational Practices (OEP) and Open Pedagogy that have emerged in the course of the debate about the practical impact of OER. While no rigid definition for both concepts exists, OEP describes the use and creation of OER in pedagogical practices (Cronin & MacLaren, 2018). The concept of OER-enabled Pedagogy, defined by Wiley and Hilton as one strand of Open Pedagogy, captures educational practices that are only possible due to the 5R activities (Wiley & Hilton, 2018).

While it can be stated that OER and the related concepts of OEP and OER-enabled Pedagogy are well established in the broader educational discourse (Bozkurt et al., 2019; Cronin & MacLaren, 2018; Koseoglu & Bozkurt, 2018), one persistent problem is the low use of OER in higher education teaching. Notwithstanding the increase of Repositories of OER (ROER) and the growth of resources (Santos-Hermosa et al., 2017), empirical studies have repeatedly documented that there is a low uptake of OER for teaching practices (Otto, 2019). The same applies to OEP and Open Pedagogy, for which few empirical examples have been identified (Hilton et al., 2020).

For filling this gap between the proclaimed benefits of OER and the lack of use, various studies have concentrated on investigating barriers for OER (Belikov & Bodily, 2016; Blomgren, 2018; Percy & Van Belle, 2012; Perryman & Seal, 2016; Richter & Ehlers, 2012; Rolfe, 2012). Bozkurt et al. (2019), in their review, state that the central barriers for OER are meanwhile well documented and predominantly comprise three main factors; lack of time, legal uncertainty and institutional obstacles.

Whereas these identified barriers constitute fundamental challenges for the use of OER, in our article, we argue that the current focus of the literature is too narrow on barriers while neglecting to investigate measures that might increase the use of OER. Combined with this is another problem that is often inherent in the studies research design: Predominantly, these survey the awareness of OER or the lack thereof and the reasons for the absence of OER use. However, it might be more promising to examine the perceptions of those who already use OER in their teaching practices. The latter might help to render insights on what measures or incentives are most likely to enhance the use of OER. The few analyses that already exist, for instance, by Santos-Hermosa et al. (2021), find that the offer of incentives for teaching staff for the creation of OER is rare.

Following this observation, we examine the following research question:

- What measures are promising to enhance the use of OER in higher education teaching?

To answer this research question, we used a mixed-method approach to collect data. This approach comprised an expert survey among OER experienced higher education teachers in Germany, which results were then subject to a focus group discussion. The focus group allowed validating and differentiating the results of the initial expert survey data.

Regarding the structure of our article, we describe our methods in detail in the next section. The results of our mixed-methods approach are presented afterwards. Conclusions are drawn in the last section, as well as the implications for further research on OER.

METHODS

The focus group method is a well-established methodology in educational science and mostly contrasted with one to one interviews (Parker & Tritter, 2006). The advantage of setting up a focus group instead of conducting interviews lies in the interaction between the group members, which can be observed and steered by a moderator to obtain the desired results. Common challenges in focus groups are individuals who dominate within the groups, normative discourses, and conflicts and arguments within focus groups (Smithson, 2000). All of these challenges have to be reflected during the analysis of the data. Overall, focus groups can especially be helpful if the intention is to generate new ideas and receive feedback to develop recommendations for future change and development (Breen, 2006).

Wilkinson (1998) has identified three distinctive research tradition within the use of the focus group methodology. A first tradition is to providing access to participants' language, concepts and concerns. The second tradition encourages the production of more fully articulated accounts. The third offers an opportunity to observe the process of collective sense-making in action. With our research approach, we follow the second strand that aims to receive differentiated feedback from the participants' regarding a specific topic/research question.

In contrast to one-to-one interviews, the focus group participants can articulate themselves more comprehensively, express, and exchange their views and opinions. Therefore, the moderator's key challenge is to spur interaction between the participants by providing adequate input for the debate. Deliberation cannot be expected to arise out of nothing. Consequently, Breen (2006) emphasises that before implementing a focus group, it is essential to begin by asking: 'What do I ultimately expect to get out of this research?' (2006, p. 463).

Against the background of our initial research question, our objective was to identify and validate measures that are promising to enhance the use of OER in higher education teaching. From this objective, we derived the following desired outcomes of using a focus group:

- Identification of suitable measures that enhance the use of OER in higher education teaching
- Assessment of these measures by OER experienced lecturers by rating their importance and expected impact
- Communicative validation and differentiation of the measures by the participants

We decided to prepend the focus group with an expert survey as a pre-test to accomplish all of these preferred outcomes. The survey intended to rank the identified measures and served as the primary input for the focus group discussion. Therefore, the survey presented different measures to the participants estimated to increase the use of OER in higher education. The measures were derived from current findings in the literature (Baas et al., 2019; Percy & Van Belle, 2012; Rolfe, 2016; Santos-Hermosa et al., 2021; Schuwer & Janssen, 2018) and our research (Heck et al., 2020; Otto, 2019). All measures were assigned to two broader topics that are considered essential in the literature.

1. Measures on an institutional level that support teachers to use OER. Hitherto, these structural barriers are an eminent focus of the available studies.
2. Measures that enhance the use of ROER. Only a few studies are available on the issue of the usability of ROER. However, this is crucial to empower teachers to the 5R activities of OER.

Overall the survey comprised 26 measures that had to be rated by the participants. The rating for each measure consisted of two components.

participants' reactions and emotions, we decided to examine our data using an ethnographic approach (Reed & Payton, 1997). Consequently during each focus group, the moderator observed, and the recorder summarised the discussion's primary outcomes, including the focal points, controversies, agreement or disagreement. After the focus groups finished, all moderators and recorders compared and contrasted their two-round results and carved out the main findings.

RESULTS

In the following, we first present each topic's survey results, institutional measures and repositories that we sent to the 42 higher education teachers identified as suitable candidates. As aforementioned, 32 of the teachers participated in the survey. After presenting each of the two survey components, we interpret and differentiate the results against the background of the findings we obtained during the focus group discussion. Twenty of the 32 teachers who took the survey attended the focus group.

MEASURES ON AN INSTITUTIONAL LEVEL

Table 2 illustrates the ratings for the measures on an institutional level. These were rated concerning their priority from 1 (lowest priority) to 5 (highest priority) and their impact ranging from 1 (lowest impact) to 5 (highest impact).

Table 2 Measures on an institutional level to promote OER.

MEASURES TO PROMOTE THE USE OF OER IN HIGHER EDUCATION (N = 32)	PRIORITY	IMPACT
Free legal advice for teachers to create and use OER.	4.56	4.28
Development of a cross-institutional metasearch engine for OER.	4.48	4.26
Funding programmes for the creation of OER.	4.28	4.53
Use of open textbooks in higher education teaching.	4.04	3.93
One contact office/person in higher education institutions for OER.	4.00	3.60
Establishment of an OER repository at every higher education institution.	3.90	3.55
Research semester for teachers to create OER.	3.81	4.06
Consideration of OER activities in appointment procedures for professorships	3.58	3.77
All results of research projects must be published as OER.	3.52	3.64
Compulsory OER training for teachers in higher education.	3.48	3.38
Introduction of an OER Citation Score.	3.30	3.40
Obligation for teachers to publish all created teaching materials as OER.	2.77	3.20

The results in Table 2 reveal that direct support for teachers to the use of OER is two of the highest-ranked measures. The highest priority (4.56), offering free legal advice for teachers, is in line with the findings in the literature that identified legal uncertainty as one of the major obstacles for the use and creation of OER (Bozkurt et al., 2019; Koseoglu & Bozkurt, 2018; Otto, 2019). Consequently, the teachers expect this to have the second-highest impacts of all measures (4.28).

An additional challenge for teachers frequently mentioned in the literature is finding suitable OER (Otto, 2019). Even though the number of OER increases (Clements et al., 2015; Santos-Hermosa et al., 2017), it is particularly time-consuming for teachers to search in different repositories to find fitting OER. Therefore, the measure to establish a meta-search engine, comparable to that of Google and others, received the second-highest rating (4.48). Thereby, another central barrier for teachers could be addressed, the lack of time (Bozkurt et al., 2019; Otto, 2019).

On a more general level, funding programmes for OER creation were given the third-highest priority (4.28). Noteworthy, this is expected to have the most significant impact of all measures (4.53). One reason for this could be the accompanying increased awareness and recognition of OER compared to other more popular research topics such as virtual or augmented reality or learning analytics.

Another measure that also received a high rating is to use open textbooks in teaching (4.04). The idea of open textbooks has received considerable attention in education, and studies repeatedly demonstrate that they can reduce cost for students while achieving similar learning outcomes when compared with conventional materials (Mason & Kimmons, 2018; Wiley, 2020). While open textbooks have become prominent in the US, they are not very common in the rest of the world (Wiley, 2020).

The general need for direct support for teachers interested in OER mentioned at the beginning is also evident when looking at the other higher-ranked measures. A central contact (4.00) and a repository (3.90) in each higher education institution underscore findings of the literature that not only high-quality ROER are needed but also general support of teachers in their use (Atenas & Havemann, 2014). For the measure to have research semesters for creating OER (3.81), is it noteworthy that teachers assume this to have a considerable high impact (4.06) on the use of OER. The latter can be interpreted against the background of the low acknowledgement of OER and teaching in general, which usually enjoys a lower reputation than research (Otto, 2019).

For the lowest ranks, it is remarkable that teachers consider strict or direct regulations, for instance, compulsory OER training (3.48) and imposed obligations, for instance, that results of research projects must be published as OER (3.52) as a high priority nor expect them to have a high impact. This especially concerns teachers' obligations to publish all created teaching materials as OER (2,77), which contradicts some literature requests to make educational material a public good (Jhangiani, 2017). On a more general level, this could indicate that instead of obligations and compulsory measures, incentives are perceived as promising to convince teachers to use OER.

Focus group discussion

The results of the survey were further corroborated during the focus group discussion. From the start of the discussion of the ranking, it became evident that the participants perceived compulsory measures as having little effect on the actual use of OER. Participants stated that a more fundamental shift from close to open teaching is needed regarding OER and teaching in general. Hitherto, the idea of openness has not established itself in higher education. However, adequate infrastructures that support this idea of openness do not exist either and inhibit the development of an open attitude. Recent findings in the literature confirm the importance of attitudes for OER use (Otto, 2021).

In the focus group discussion, there was again considerable support for third party funding for OER, which the participants identified as a critical hurdle to achieving an increase in OER use. Funding opportunities could especially be an incentive for people who are not intrinsically motivated to engage with OER and further stimulate teachers' open attitudes. However, some participants noted that converting already existing material into OER is also an important issue but is far more complicated than creating new material. As a possibility to address this problem, a 'support staff fund' was proposed so that student assistants could be trained to support the conversion of conventional material into OER. Free legal advice on licensing processes can be a significant contribution here. One participant stated the importance of facilitating safety in the use of image rights. Overall, teachers agreed on the necessity of practical and direct support and the development of pragmatic solutions.

Discussions unfolded in the focus group on the measure to establish one repository for each institution. It was argued that this could help to ensure that materials can be found at a central pool/portal and that confusing structures are avoided. The inhibition threshold to use or upload materials at one's institution is also lower than using an external platform. However, platforms also exist at the federal level, which makes it easier to pool materials. The latter would as well support higher education institutions that only have limited OER available. According to the participants' consensus, a central contact point/person per higher education institution or even faculty to manage these processes is becoming more critical. Some participants brought up the idea of 'OER curators' who manage all aspects during these processes. Based on their own experience, the participants agreed that there is a need for a central contact person in institutions, especially for technical and licensing concerns, as these are small but often crucial hurdles to OER.

Finally, the participants made it clear that higher education teaching has the fundamental problem of being less valued than research. Concurrently to spurring the use of OER, it would therefore be necessary to reduce this imbalance.

MEASURES FOR ROER

Table 3 shows the rating for measures regarding the use of REOR. Again, the measures are ranked starting with their priority from 1 (lowest priority) to 5 (highest priority). Likewise, the impact of the measures ranges from 1 (lowest impacts) to 5 (highest impact).

MEASURES TO INCREASE THE USABILITY OF ROER IN HIGHER EDUCATION (N = 32)	PRIORITY	IMPACT
Changes/improvements to OER materials can be communicated back to the creator.	4.13	3.77
The repository only allows the use of open licenses.	4.07	3.69
Creators are informed about the use and modification of their OER material.	4.06	3.84
Quality control when materials are uploaded into the repository.	4.03	3.76
Changes/improvements to OER material is reported back to the creator.	4.00	3.90
A tool/app exists for the assignment of OER metadata and OER licenses.	3.93	3.73
Other users can comment on OER materials.	3.81	3.68
There is a possibility to inform others about changes to one's own OER material.	3.81	3.61
The repository is integrated into the institution's learning management system (LMS).	3.75	3.43
Peer-review process for uploading materials into the repository.	3.63	3.55
Tool/app for creating and uploading OER materials to the repository.	3.60	3.53
Other users can rate uploaded OER materials.	3.30	3.40
The previous versions are still publicly available when uploading updated material.	3.27	3.07
Badges are awarded to users for their activities in the OER repository.	2.79	2.96

Table 3 Measures to increase the usability of ROER.

The results illustrate that the five highest-ranked measures are relatively close to each other, all slightly above four. First, it is evident to the teachers that a repository should only contain material with an open licence (4.07). Thus, the repository should not be mixed with closed materials. Besides, it is remarkable that the teachers stress that creators should be informed about changes/improvements of their material (4.13) and its further use and modification (4.06).

Second, the rating indicates that the participants believe that quality control is necessary when uploading material into the repository (4.03). However, there was no strong support for the idea of a peer-review process (3.63). This understanding can contribute to the considerable discussion about quality and OER, mainly whether there should be any kind of quality control (Atenas & Havemann, 2013, 2014; Yuan & Recker, 2015).

Interestingly, only moderate support was given to integrating the repository into the LMS (3.75), which would facilitate teachers to remain in their familiar learning environment. Overall, it appears that the participants find that the communicative aspect should play a considerable role in the repository. This is evident in the support for the measure to be able to comment on materials (3.81) and the possibility to inform others about changes to one's own material (3.81). Noteworthy, any form of rating material (3.30) or awarding users with badges (2.79) did not find significant backing by the participants.

Focus group discussion

One dominant topic during the focus group discussion was again the aspect of quality control. The participants debated whether quality control should only encompass the formal level (technical, metadata) or equally the content level (correctness, adequacy). It was stated that quality control is challenging, particularly regarding pedagogical aspects. One participant gave an example of teacher education where quality management was established. Students here work with the material and give feedback regarding content and technical quality. Moreover, an

independent quality management office provides the possibility of continuous improvement. Other participants took up this idea and suggested providing an opportunity in the repository to request feedback on published material.

More generally, the participants indicated that there is a necessity for openness towards feedback and constructive criticism. A peer-review process as the established practice in science is also conceivable for OER in principle, best as a collaborative review and quality assurance by the community. What is tricky here is identifying the relevant criteria. The participants agreed that these need to be defined in the respective professional societies. However, a positive culture towards feedback and constructive criticism is therefore required. Perfect material should not be regarded as an immediate standard but a process that comprises continuous improvement. A preferable goal would be to develop standards by the community, although this is difficult to implement. The latter is mainly because, according to the participants, there is usually hardly any feedback culture from colleagues in teaching practices. It is also crucial for the participants to distinguish more clearly between research and teaching. Research criteria cannot be applied to teaching materials and specific pedagogical approaches without any adjustments. The participants well received the comment that quality control should first occur locally in the institutions and small communities. The first steps are essential here: develop low-threshold offers to avoid any inhibitions and overwhelming colleagues interested in OER.

The low standing of the idea to allow a rating of material by others was reinforced during the discussion. While the participants agreed that criteria such as download numbers could help to screen materials efficiently, they saw the risk that likes or downloads could be subject to manipulation and create a bias when specific tipping points are reached.

Regarding the exclusive use of open licences in the repository, the participants took a clear position. Creative Commons licences have proven to be a viable way forward. It does not help to find materials in a repository that one is not allowed to use or edit. Open licences, in particular, facilitate to begin to work with OER. However, the literature suggests that adequate licensing of open materials is still demanding and sometimes confusing (Amiel & Soares, 2016). Following the participants, including commercial licences in the repository adds complexity and increases the need for (legal) advice, which is already a problem. On the other hand, open licences can provide simplicity, as users often still have fears about the materials' scope.

Regarding the availability of earlier versions of materials used or further developed by other teachers in different contexts (e.g. subject-specific or pedagogical scenarios), the participants felt that this is preferable. Derivatives should remain traceable through citation in the case of subsequent use.

Another measure that was confirmed as useful in the discussion is to provide technical support for assigning metadata to materials. Assigning metadata is often demanding and therefore discouraging, particularly for beginners. Hence, a low threshold is necessary, and automation for assigning metadata is preferable. However, the development of OER's metadata's common standards remains difficult (Amiel & Soares, 2016).

CONCLUSION AND OUTLOOK

In conclusion, this article gave insight into the challenge of identifying measures to increase OER use in higher education teaching. From OER experienced teachers' perspective, it can be stated that they prefer incentives and support services over commitments and obligations. Even though obligations to publish the results of research projects or even all materials as OER sounds convincing and increase OER availability, teachers feel that this would be perceived as a burden instead of creating the desired positive stance towards openness. For that reason, a more fundamental shift from close to open teaching was favoured, which is connectable to the emerging discussion on OEP and Open Pedagogy (Bossu & Stagg, 2018; Cronin & MacLaren, 2018).

For all of the teachers, this shift towards openness comprises the entrenchment of respective values and principles in institutions, such as recognising teaching as being equally important as research, a positive culture towards criticism, and affirmative attitudes towards sharing and collaboration. All this provides the foundation for the use of OER.

Concerning tangible measures to build this foundation and increase OER use, teachers find that direct support and incentives are the most promising. Therefore, they endorse that legal advice regarding the use and creation of OER should be the priority and could best be implemented in the form of a central office or person responsible for OER related issues. Funding can serve as a pivotal extrinsic incentive for indecisive teachers to engage in OER. Corresponding funding programmes should include open textbooks, which the teachers concede potential to boosting OER. However, teachers find that a metasearch engine for OER is crucial not only for searching and composing open textbooks.

As for repositories, teachers find that these should be established at every higher education institution. One aspect that seems to be essential for their design is that authors/creators want to be informed about their material's further use. However, this is a two-way communication as users should be able to give feedback to the creator. Despite this, the exclusive use of open licences was undisputed. As the literature suggests, another critical aspect during the discussion was quality control. The teachers believe that quality control is essential not only regarding technical quality but also in terms of content. Therefore, an open and participatory approach is required, which involves the related professional communities, starting at a low-threshold level. To create this low threshold, tools that support assigning OER metadata and OER licenses can be helpful.

Although our results were obtained on a solid mixed-methods approach, they nevertheless face some limitations that need to be reflected. First, our sample only involves teachers from higher education institutions in Germany, and our results might thus not be valid for other countries. Future research should determine whether analogous or different preferences exist in other countries or educational areas. Second, our sample is small, comprising 32, respectively, 20 teachers. However, this small number of suitable candidates echoes the current low use of OER in higher education teaching in Germany and probably most of the other countries worldwide (UNESCO IITE, 2019). Third, a control group would have been preferable to verify to what extent preferences differ or coincide with teachers who are interested but do not have experiences with the use of OER in teaching.

As a final point, it appears that the teachers underlying path is guided by a desire for a fundamental shift towards openness in teaching practices. The measures favoured by the teachers for OER use can thus be understood as essential puzzle pieces that compose the bigger picture of openness in higher education.

FUNDING INFORMATION

COMPETING INTERESTS

The author has no competing interests to declare.

AUTHOR AFFILIATIONS

Daniel Otto orcid.org/0000-0002-8226-4741
University of Duisburg-Essen, Germany

REFERENCES

Amiel, T., & **Soares, T. C.** (2016). Identifying tensions in the use of open licenses in OER repositories. *International Review of Research in Open and Distance Learning, 17*(3), 122–137. DOI: https://doi.org/10.19173/irrodl.v17i3.2426

Atenas, J., & **Havemann, L.** (2013). Quality Assurance in the Open: An Evaluation of OER Repositories. *INNOQUAL – International Journal for Innovation and Quality in Learning, 1*(2), 22–34. DOI: https://doi.org/10.3402/rlt.v22.20889

Atenas, J., & Havemann, L. (2014). Questions of quality in repositories of open educational resources: a literature review. *Research in Learning Technology*, *22*(0 SE-Original Research Articles). DOI: https://doi.org/10.3402/rlt.v22.20889

Baas, M., Admiraal, W., & van den Berg, E. (2019). Teachers' adoption of open educational resources in higher education. *Journal of Interactive Media in Education*, *2019*(1). DOI: https://doi.org/10.5334/jime.510

Belikov, O. M., & Bodily, R. (2016). Incentives and barriers to OER adoption: A qualitative analysis of faculty perceptions. *Open Praxis*, *8*(3), 235–246. DOI: https://doi.org/10.5944/openpraxis.8.3.308

Blomgren, C. (2018). OER awareness and use: The affinity between higher education and K-12. *International Review of Research in Open and Distance Learning*, *19*(2), 55–70. DOI: https://doi.org/10.19173/irrodl.v19i2.3431

Bossu, C., & Stagg, A. (2018). The potential role of Open Educational Practice policy in transforming Australian higher education. *Open Praxis*, *10*(2), 145. DOI: https://doi.org/10.5944/openpraxis.10.2.835

Bozkurt, A., Koseoglu, S., & Singh, L. (2019). An analysis of peer reviewed publications on openness in education in half a century: Trends and patterns in the open hemisphere. *Australasian Journal of Educational Technology*, *35*(4), 68–97. DOI: https://doi.org/10.14742/ajet.4252

Breen, R. L. (2006). A Practical Guide to Focus-Group Research. *Journal of Geography in Higher Education*, *30*(3), 463–475. DOI: https://doi.org/10.1080/03098260600927575

Clements, K., Pawlowski, J., & Manouselis, N. (2015). Open educational resources repositories literature review – Towards a comprehensive quality approaches framework. *Computers in Human Behavior, 51*, 1098–1106. DOI: https://doi.org/10.1016/j.chb.2015.03.026

Cronin, C., & MacLaren, I. (2018). Conceptualising OEP: A review of theoretical and empirical literature in Open Educational Practices. *Open Praxis*, *10*(2), 127–143. DOI: https://doi.org/10.5944/openpraxis.10.2.825

Heck, T., Kullmann, S., Hiebl, J., Schröder, N., Otto, D., & Sander, P. (2020). Designing Open Informational Ecosystems on the Concept of Open Educational Resources. *Open Education Studies, 2*(1), 252–264. DOI: https://doi.org/10.1515/edu-2020-0130

Hilton, J., Hilton, B., Ikahihifo, T. K., Chaffee, R., Darrow, J., Guilmett, J., & Wiley, D. (2020). Identifying Student Perceptions of Different Instantiations of Open Pedagogy. *The International Review of Research in Open and Distributed Learning*, *21*(4), 1–19. DOI: https://doi.org/10.19173/irrodl.v21i4.4895

Jhangiani, R. S. (2017). Pragmatism vs. Idealism and the Identity Crisis of OER Advocacy. *Open Praxis*, *9*(2), 141. DOI: https://doi.org/10.5944/openpraxis.9.2.569

Koseoglu, S., & Bozkurt, A. (2018). An exploratory literature review on open educational practices. *Distance Education*, *39*(4), 441–461. DOI: https://doi.org/10.1080/01587919.2018.1520042

Mason, S. L., & Kimmons, R. (2018). Effects of Open Textbook Adoption on Teachers' Open Practices. *International Review of Research in Open and Distance Learning*, *19*(3), 128–150. DOI: https://doi.org/10.19173/irrodl.v19i3.3517

Otto, D. (2019). Adoption and diffusion of open educational resources (OER) in education: A meta-analysis of 25 OER-projects. *International Review of Research in Open and Distance Learning, 20*(5), 122–140. DOI: https://doi.org/10.19173/irrodl.v20i5.4472

Otto, D. (2021). Driven by Emotions! The Effect of Attitudes on Intention and Behaviour regarding Open Educational Resources (OER). *Journal of Interactive Media in Education, 2021*(1), 1–14. DOI: https://doi.org/10.5334/jime.606

Parker, A., & Tritter, J. (2006). Focus group method and methodology: current practice and recent debate. *International Journal of Research & Method in Education*, *29*(1), 23–37. DOI: https://doi.org/10.1080/01406720500537304

Percy, T., & Van Belle, J. P. (2012). Exploring the barriers and enablers to the use of open educational resources by university academics in Africa. In I. Hammouda, B. Lundell, T. Mikkonen, & W. Scacchi (Eds.), *IFIP Advances in Information and Communication Technology: Vol. 378 AICT* (pp. 112–128). Berlin, Heidelberg: Springer. DOI: https://doi.org/10.1007/978-3-642-33442-9_8

Perryman, L.-A., & Seal, T. (2016). Open Educational Practices and Attitudes to Openness across India: Reporting the Findings of the Open Education Research Hub Pan-India Survey. *Journal of Interactive Media in Education*, *2016*(1). DOI: https://doi.org/10.5334/jime.416

Reed, J., & Payton, V. R. (1997). Focus groups: Issues of analysis and interpretation. *Journal of Advanced Nursing*, *26*(4), 765–771. DOI: https://doi.org/10.1046/j.1365-2648.1997.00395.x

Richter, T., & Ehlers, U. D. (2012). Barriers and Motivators for Using Open Educational Resources in Schools. *Open Ed 2010: The Seventh Annual Open Education Conference*, *2010*, 413–424. http://openaccess.uoc.edu/webapps/o2/bitstream/10609/4868/6/Richter_editat2.pdf

Rolfe, V. (2012). Open educational resources: Staff attitudes and awareness. *Research in Learning Technology*, *20*(1). DOI: https://doi.org/10.3402/rlt.v20i0/14395

Rolfe, V. (2016). Web Strategies for the Curation and Discovery of Open Educational Resources. *Open Praxis*, *8*(4), 297. DOI: https://doi.org/10.5944/openpraxis.8.4.305

Santos-Hermosa, G., Estupinyà, E., Nonó-Rius, B., París-Folch, L., & Prats-Prats, J. (2021). Open educational resources (OER) in the Spanish universities. *El Profesional de La Información*, *29*(6). DOI: https://doi.org/10.3145/pi.2020.nov.37

Santos-Hermosa, G., Ferran-Ferrer, N., & Abadal, E. (2017). Repositories of open educational resources: An assessment of reuse and educational aspects. *International Review of Research in Open and Distance Learning*, *18*(5), 84–120. DOI: https://doi.org/10.19173/irrodl.v18i5.3063

Schuwer, R., & Janssen, B. (2018). Adoption of sharing and reuse of open resources by educators in higher education institutions in the Netherlands: A qualitative research of practices, motives, and conditions. *International Review of Research in Open and Distance Learning*, *19*(3), 1151–1171. DOI: https://doi.org/10.19173/irrodl.v19i3.3390

Smithson, J. (2000). Using and analysing focus groups: Limitations and possibilities. *International Journal of Social Research Methodology*, *3*(2), 103–119. DOI: https://doi.org/10.1080/136455700405172

UNESCO. (2002). *Forum on the Impact of Open Courseware for Higher Education in Developing Countries Final report UNESCO*.

UNESCO. (2019). *Draft Recommendation on Open Educational Resources*. UNESCO. General Conference, 40th, 2019; UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000370936

UNESCO IITE. (2019). *Understanding the Impact of OER: Achievements and Challenges*. https://iite.unesco.org/publications/understanding-the-impact-of-oer-achievements-and-challenges/

Wiley, D. A. (2016). Foreword. In P. Blessinger & T. J. Bliss (Eds.), *Open Education* (1st ed., pp. xxi–xxii). Open Book Publishers.

Wiley, D. A. (2020). Open educational resources: undertheorised research and untapped potential. *Educational Technology Research and Development*. DOI: https://doi.org/10.1007/s11423-020-09907-w

Wiley, D. A., & Hilton, J. (2018). Defining OER-enabled pedagogy. *International Review of Research in Open and Distance Learning*, *19*(4), 133–147. DOI: https://doi.org/10.19173/irrodl.v19i4.3601

Wilkinson, S. (1998). Focus group methodology: a review. *International Journal of Social Research Methodology*, *1*(3), 181–203. DOI: https://doi.org/10.1080/13645579.1998.10846874

Yuan, M., & Recker, M. (2015). Not all rubrics are equal: A review of rubrics for evaluating the quality of open educational resources. *International Review of Research in Open and Distance Learning*, *16*(5), 16–38. DOI: https://doi.org/10.19173/irrodl.v16i5.2389

Zawacki-Richter, O., Conrad, D., Bozkurt, A., Aydin, C. H., Bedenlier, S., Jung, I., Stöter, J., Veletsianos, G., Blaschke, L. M., Bond, M., Broens, A., Bruhn, E., Dolch, C., Kalz, M., Kondakci, Y., Marin, V., Mayrberger, K., Müskens, W., Naidu, S., … Xiao, J. (2020). Elements of Open Education: An Invitation to Future Research . *The International Review of Research in Open and Distributed Learning*, *21*(3 SE-Notes From the Field). DOI: https://doi.org/10.19173/irrodl.v21i3.4659