

Teacher Education Lecturers' Views of Open Educational Resources: A Case of South African Universities

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Abstract

Literature reflects that universities freely share their teaching materials as Open Educational Resources (OER). The primary objective of this study was to investigate the views of lecturers at faculties of education on the usefulness of OER for academic purposes at selected South African universities. This study is grounded in the Technology Acceptance Model, TAM (Davis, 1989), the Unified Theory of Technology Acceptance and Use, UTAU (Bagozzi, 2007) and the Theory of Diffusion of Innovations, TDI (Rogers, 2003). These theories justified this investigation and explored the views of lecturers at faculties of education on the usefulness of OER for academic purposes at selected South African universities. The qualitative research approach informed the study, which employed semi-structured interviews. Four lecturers were sampled purposively from each university to participate in the research, and the data were analysed thematically. The findings of this study are that although the lecturers had an inadequate understanding and knowledge of OER, they displayed their disposition toward the usefulness of OER in applying to their pedagogical practices. What is now needed is for South African universities to ensure greater OER awareness and assist lecturers in acquiring knowledge of OER so that they can infuse and utilise it effectively in their daily teaching and learning environments.

Keywords: Open educational resources, Conceptualisation, Lecturers, Universities

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Introduction

A large and growing body of literature has investigated the usefulness of open educational resources (OER) that allow for collaboration, sharing, repurposing, and accessing (Plotkin, 2010). According to Mishra (2017), OER is teaching and learning resources such as course materials and textbooks, which are available on the net at no cost. Lecturers worldwide share their course materials and textbooks on public networks and assist each other in improving their teaching and learning.

The fast and exponential development of Information Communication and Technology (ICT) recently resulted in new innovative pedagogical practices, particularly at universities. Nowadays, teaching and learning at universities are characterised by ICT devices such as computers, laptops, and iPads, which require considerable technical skill from lecturers and students. Besides technical competence, lecturers must master situated-knowledge practices to interact and apply digital tools so that they and their students can access teaching-and-learning materials via ICT-based situated-knowledge practices (Brown, 2012).

Even though many South African universities have the technological infrastructure and have invested in OER, lecturers know little about their effect on teaching and learning. Several South African studies on OER integration into teaching and learning (Cox & Trotter, 2017; de Hart, Chetty & Archer, 2015; Lesko, 2013; Madiba, 2018) find that South African lecturers need to be appropriately introduced to OER. However, studies reported that lecturers were reluctant to explore OER as an innovative pedagogical resource because their universities do not subscribe to the OER movement (Madiba, 2018; Hodgkinson-Williams et al., 2017; Bello et al., 2021). Furthermore, a South African study reported that lecturers are aware of OER, but factors such as advocacy and adoption are influenced by the university tuition policy (Cox & Trotter, 2017). Based on these studies, the main objective of this study was to investigate lecturers at faculties of education views of the usefulness of OER for academic purposes at selected South African universities. The following questions were formulated to obtain results and achieve the study's primary objective.

- What are lecturers' understanding of OER regarding teaching and learning at faculties of education?
- What are lecturers' experiences of OER in their teaching and learning at faculties of education?
- What OER materials are used as artefacts by lecturers in teaching and learning at faculties of education?

Literature Review

This study is grounded in the Technology Acceptance Model, TAM (Davis, 1989), the Unified Theory of Technology Acceptance and Use, UTAU (Bagozzi, 2007) and the Theory of Diffusion of Innovations, TDI (Rogers, 2003). These theories justified this investigation and explored the views of lecturers at faculties of education on the usefulness of OER for academic purposes at selected South African universities. Firstly, the contribution of TAM is the uniqueness of attitudes and intentions that complement behaviour. In this study, why do some academics use OER to enhance lectures? TAM is important because it examines attitudes towards behaviour and subjective norms to be carried out (Bobbitt & Dabholkar, 2001; Binyamin, 2019). Fishbein and Ajzen (1980) suggest that individuals are logical, make organised use of an information system, and consider its consequences. This theory consists of two segments that determine people's behaviour. The first is the behaviour attitude, and the second is the subjective norm. As to the latter, Ajzen and Fishbein (1980) suggest that a connection between notable attitudes and beliefs towards behaviour is vital to ensure "correspondence in action, target, context, and time elements". In this study, the TRA model assisted in identifying links between the attitudes and beliefs of lecturers regarding using OERs in teaching and learning. Concerning the TAM model, Davis (1989) explains that individuals' actions are based on evidence from circumstances, beliefs, and attitudes. This model attempts to describe how users embrace and use new technologies. In addition, scholars argue that lecturers' reflections on the usefulness of OER might be affected by how students perceived the easiness and usefulness of resources (Davis, 1985; Kim et al., 2015). Bagozzi (2007), on the other hand, denounces the weak conceptual connections between the TAM constructs, which we concur with, and includes the TRA and the UTUAT models. Moreover, Bagozzi (2007) emphasises the importance of cultural and group features in technology acceptance by matching collaborative decisions on technology acceptance and actual use with people or group requirements. Davis's (1985) and Bagozzi's (2007) theories are relevant to this study as they underline the human intention to perform a behaviour. Finally, the Theory of Diffusion and Innovations (Rogers, 2003) claims that diffusion is how an individual decides to adopt any innovations, such as integrating ICT, Open text, OER, and Web 2.0 technology-integrated platforms. This is evidence of an individual that showed acceptance or rejection of new ideas, in this case, investigating lecturers' views of whether OER suits student learning. In other words, the adoption and use of

OER and other electronic instructional media is the responsibility of individuals, in our case, lecturers at faculties of education located in institutions of higher learning.

A global movement for free and open access towards OER

The OER movement as a global strategy, which is a reasonably new phenomenon, has gained academic credibility over the past two decades towards the diffusion for the adoption of OER (Piedra et al., 2014), and its potential to transform education worldwide has generated considerable interest in the concept of OER. Scholars across the world have proposed a range of OER definitions. Some definitions emphasise openness, whereas others view them as resources with intellectual property licenses.

The OER movement began in 2001 with the Open Course Ware (OCW) initiative at the Massachusetts Institute of Technology (MIT) (Torres, 2013). It entailed that Internet courses for students and faculty members were posted free of charge (Kanwar et al., 2010). Torres (2013) claims that since then, the terms “OCW” and “OER” have become widespread and common and have earned global recognition. Similarly, Ferrari and Traina (2013) define OER as educational resources designed for teaching and learning that demand neither royalties nor license fees. Studies reported that OER is quality-assured course materials, ebooks, open text, curriculum maps, streaming videos, podcasts, multimedia applications, and other related resources that educators and their students use without paying royalties or license fees (UNESCO, 2002; Butcher et al., 2011; Creative Commons, 2012; MacIntosh et al., 2011). In addition, Tuomi (2012) describes OER “...as a public good and large bodies of economic literature become relevant in explaining why and when policy intervention is justified for such goods.” (p. 5). Adding support for free and open access towards OER, Plotkin (2010) argues that the best option is licensing all resources as intellectual property to increase the global footprint of the movement. To advance the global OER movement agenda, licensing should be available for “re-use, re-working, re-mix, and redistribution” (Plotkin, 2010). Kanwar, Balasubramanian and Umar (2011) take the definition a step further by adding OER's practice and cultural aspects and including an empowerment process. The conceptual view of OER emphasises the interaction and collaboration of all stakeholders in implementing and adopting OER since they play significant roles in its infusion in teaching and learning. After all, OER pertains to globally generating knowledge of all stakeholders (Ossiannilsson & Auvinen, 2012; Kanwar et al., 2011; UNESCO-COL, 2011).

The vagueness of the “open” concept has been an advantage to the OER movement. It is frequently misunderstood as “free of charge” (Johnson et al., 2014, p.14). The concept “open”, as defined by Jhangiani and Biswas-Diener (2017), means “allowing access to”. Many countries take advantage of the concept to share knowledge. It has led to several new teaching approaches, and the education domain is steadily accepting this open movement's presence, growth, and influence (Olcott, 2013). The open movement is about sharing resources in support of student learning (Kelly, 2014).

The open movement depends on collaborative environments of teaching and learning in which users share resources to enhance knowledge creation. UNESCO (2012) advocates sharing resources with no or limited restrictions. The sharing of resources must be built on the practical digital competencies of users who embrace the new approach to teaching and learning. Tosato, Arranz, and Avi (2014) deem that sharing resources will eventually culminate in inequitable access. Furthermore, Mishra (2017) explains the OER movement in-depth and defines the phenomenon as the practice of sharing resources to enhance pedagogy through innovation. OER implies that open web repositories allow for the sharing, mixing, and re-using of existing OER as a public good. This study aligns with Hodgkinson-Williams, Arinto, Cartmill, and King's (2017) view of the OER definition concerning the “use of OER”. In addition, Wiley (2015) maintains that the 5R strategy (retain, reuse, revise, remix, and redistribute) enables lecturers to plan the use of OER for their daily practice. According to Wiley and Hilton III (2018), the 5R strategy means that OER-enabled pedagogy is not defined by copyright but by the relationship between them and teaching and learning practices. Williams and Werth (2021) concur that this type of pedagogy enables users through Creative Commons licensing to direct how others use their work. The OER-enabled pedagogy has activities that empower teaching and learning and encourage life-long learning through problem-based learning (PBL). In PBL, “Students use their previous knowledge, discuss, interact, seek new knowledge and integrate their results with a group, with the help of a tutor” (Brown et al., 2020, p.1).

Based on the above argument, all traditional teaching and learning approaches need an overhaul because students should be at the centre of knowledge creation.

Method

This paper emerged from the original doctoral study completed in 2021. Prior to commencing this study, ethical clearance (Reference #2019/06/12/55362443/22/MC) was granted before the doctoral study. It was decided that

the best method for the exploratory qualitative approach adopted for this investigation was to interrogate lecturers at faculties of education regarding the usefulness of OER for academic purposes at selected South African universities. Participants were recruited from three South African universities. The three universities were purposively sampled based on the availability of computer-based teaching and learning tools on their campuses. We sampled six (n=6) lecturers who agreed and permitted participation in the study. For this paper, semi-structured interviews were conducted online via Microsoft Teams videoconferencing interviews with six (n=6) purposively sampled lecturers selected for each of the three universities. The six lecturers drawn as participants from the three universities were purposively sampled based on their experience of participating in teacher education using OERs. In the qualitative data collection phase, the researchers e-mailed a letter of consent to all participants. In it, they were informed of the study's goals, procedures, pros and cons, and the duration of their involvement. Their informed consent guaranteed their right to self-determination and ensured they took responsibility for any event during the research process (Seherrie, 2017). Participants had to sign the consent form to indicate their willingness to participate in the study. Participants were informed that they could withdraw from the study if they felt uncomfortable during the study. The research committees of each university granted permission to conduct the research at their respective universities. Data were transcribed to augment the interview recordings and analysed thematically. The following steps were implemented:

- Multiple reading of transcripts, listening to recordings, and noting the text of each participant
- Searching for relationships and connections across clustered themes
- Identifying patterns across themes
- During the data analysis process, frequent concepts and words in all extracts were underlined or highlighted with a specific colour for easy categorisation under each dimension.
- Codes were used to identify each categorised dimension for each theme. Only related or aligned extracts under each of the questions were extracted.
- The final process, codes and extracted data were placed under each theme and subtheme generated. (Braun & Clarke, 2012; Nowell et al., 2017; Creswell & Poth, 2018).

Before the data could be claimed as trustworthy, credibility was ensured in the following manner. The transcriptions of data sets for each Microsoft Teams videoconferencing recording were emailed to participants to verify whether the transcriptions and recordings were a true reflection of the interviews. This allowed participants to ensure and confirm the correctness of the data set. However, if the participants found discrepancies in the extracts, it was highlighted by the participants and corrected by the author. Finally, data sets were signed by participants as a true reflection of the interviews.

Ethics approval notification

Ethical permission (Reference #2019/06/12/55362443/22/MC) was obtained from the College of Education, University of South Africa, an institution for this research. The research paper is produced from a thesis available on https://uir.unisa.ac.za/bitstream/handle/10500/28967/thesis_setshedi_jr.pdf?sequence=1&isAllowed=y

Findings

Only related or aligned extracts under each question were extracted and placed under each theme, and a subtheme was generated as depicted as findings.

Theme 1: Conceptualisation

The fact that participants identified and reported on their conceptualisation is a prominent theme in the data. In this theme, the researcher recognised and reported on the participating lecturers' conceptualisation of using OER. The theme describes their awareness of the OER concept. According to them, OER is any material that can be freely accessed online. Participants indicated their awareness of the OER concept. Most of them conceptualised OER based on their understanding of it. Participants also explained the benefits they derive from the use of OER. Two sub-themes emerging from this theme are globalisation and access to educational materials.

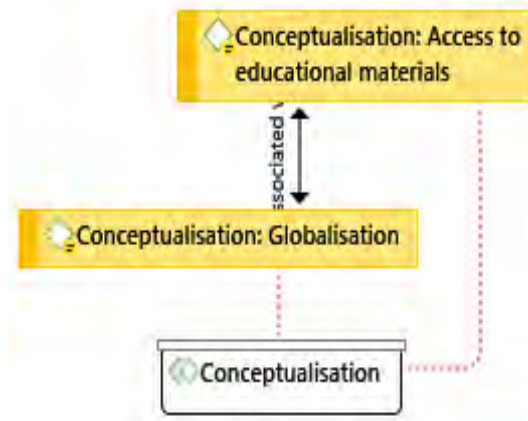


Figure 1.1 Theme 1 and its sub-themes

Sub-theme 1.1: Conceptualisation of globalisation

The lecturers interviewed in this study believed that OER prepares them for the Fourth Industrial Revolution and promotes equal access to education. This code refers to the conceptualisation of OER from the participant's perspective. Participants indicated that OER promotes the globalisation, development, and advancement of knowledge within various disciplines. Most interviewed participants had some idea of the term and could conceptualise OER in their own words. Four participants, namely Lecturer E, Lecturer O, Lecturer R, and Lecturer S, could not conceptualise OER. This code included the advancement of technological tools in line with the Fourth Industrial Revolution. Besides being regarded as open access to knowledge, OER is about developing and advancing knowledge systems and presenting local expertise to international platforms. Two participants said the following:

Lecturer L: OERs are educational materials made open and accessible to anyone. We need the information to be easily accessible. It is based on recognising that the world is riddled with massive socioeconomic inequalities. If that is the scenario, the United Nations is driving the agenda as the global body. The resources must be made available to the poorest of the poor.

Lecturer T: My understanding is comprehensive. It tells me of globalisation and participation in the construction of knowledge and digital development. It only becomes an open educational resource because it works with digital, where we access the document via the internet. It helps to access all sorts of information from all over the world.

Sub-theme 1.2: Conceptualisation of access to OER as educational materials

Participants believed that OER includes educational material. They all attached value to free access to educational materials on the internet. Access to educational materials was critical in defining and conceptualising OER. Participants also related OER to access to e-materials. They acknowledged that the Internet enables access to materials and enhances flexibility by transcending any physical constraints:

Lecturer T: OER is good because anyone who wants to reach the source can easily get it.

Lecturer Q: It is a good platform, especially now that we are discussing the Fourth Industrial Revolution.

Participants' conceptualisation of OER must continue to its application in their teaching and learning. Some participants conceptualised OER as cost. The cost of educational materials was essential in conceptualising this phenomenon in the comments of the participants:

Lecturer C: It is about resources you can use from the internet. You do not pay for them. You are supposed to get or request permission. I can put them in the study guide.

Lecturer H: It should be freely available to students and for free. Of course, for the lecturers, it is to be published as part of our work.

Some participants emphasised the licensing of OER in their conceptualisation of OER. They conceptualised OER in the following way:

Lecturer G: OER refers to materials that should be open, accessible, re-used, and repurposed to whatever context. My wish is that the issue of licensing must be communicated openly and it should be relaxed. If I create a material, I need to acknowledge it.

Lecturer N: It is material regulated by the Creative Commons licensing and different categories could be freely used.

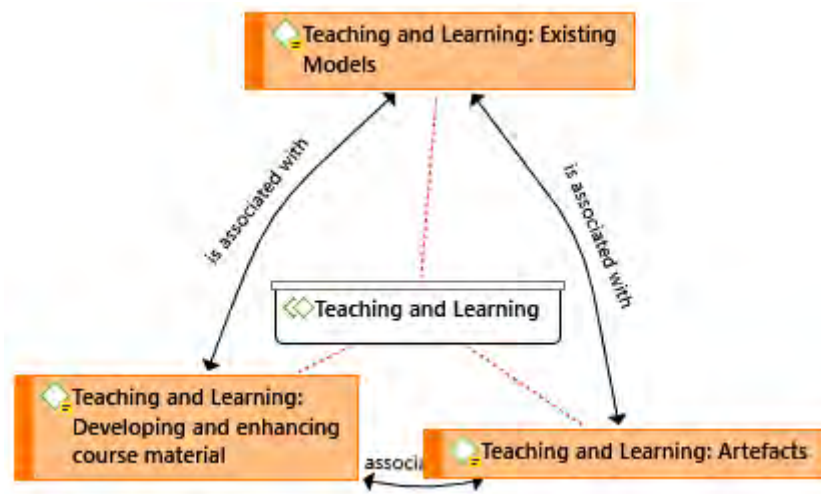


Figure 2.1 Theme 2 and its sub-themes

Sub-theme 2.1: Usage of OER artefacts in support of student learning

Lecturers mentioned that using OER artefacts to support student learning is considered vital to achieving lesson objectives. It includes e-books, videos and other multimedia material to enhance teaching and promote a student-centred approach to learning. Using OER promoted self-regulation and self-directedness in their studies. The participants designed some teaching artefacts while others were outsourced from OER platforms like YouTube. Some participants indicated that they use YouTube videos as part of their teaching:

Lecturer P: OER is based on me giving students work. You will find them using it in the library. Sometimes, I use video.

Lecturer R: We usually refer students to YouTube videos. We encourage them to use MyTutor for e-learning.

In developing countries such as South Africa, unawareness of OER is one of the hindrances to its use in teaching and learning. Participant (Lecturer I) indicated that they use videos, which are not OER. One of the participants put it this way:

Lecturer I: I am using videos in my teaching.

Sub-theme 2.2: Developing and enhancing course material.

Participants mentioned that they developed and enhanced OER to support official study material for their courses. They appreciated the impact that OER has on the depth of the curriculum. Furthermore, they infused OER into their teaching by developing assessment plans and other forms of assessments. However, they expressed the need for other curriculums to add more relevant OER resources from a pedagogical perspective. It seems that OER also improves the learning experiences of students. Participants mentioned that integrating OER into their courses improved students' knowledge in specific areas of the syllabus. OER also boosted students' engagement with learning material and deep learning.

Lecturer N: Well, on the module I am developing, 90% of the articles I am developing are OERs. I know OER, which could be the pedagogical shift as an enabler and game-changer globally.

Lecturer H: My course development involves some material I took online. We use e-books and e-textbooks that I supplement by OER.

Lecturer J: I am using OER in the Teaching Practice modules. We are developing materials; other materials have just been finalised for the upcoming programmes.

Sub-Theme 2.3: Teaching and learning: Existing models

Most participants reported being unaware of existing models for including OER in their teaching. There can be many reasons, such as inadequate advocacy for implementing OER, inadequate continuous professional development, academic training and insufficient awareness of OER platforms. The fact that participants could not isolate a specific model may mean they have a flexible approach to incorporating OER in their teaching. One lecturer commented as follows:

Lecturer N: I do not know of any models. We do not have a policy that prescribes any model.

Lecturer H: I am not sure about models and policies. The College of Education has put in place that all new programmes that are going to be offered should be approved by the College of Education Teaching and Learning Committee approval is required for all study materials you want to use. By so doing, they want to ensure that all materials are included in OER. I have not seen any OER policy. There is a guiding policy on OER.

One of the various OER policies, the *UNISA Open Educational Resource Strategy 2014 to 2016*, supports using OER in teaching and learning. The UNISA OER strategy views OER as an area of concern. It points out that the use of OER has to be incorporated into its mainstream institutional operations to exploit its potential in pedagogical transformation activities.

Discussion of findings

This study sought to investigate lecturers at educational institutions' awareness of and understanding of OER-enabled pedagogy. The first research question investigates lecturers' knowledge of OER regarding teaching and learning at faculties of education. It was found that participants were cognizant of and appreciated OER as educational material. The definitions provided by UNESCO (2012) and Madiba (2018) were adopted to provide an overview of OER-enabled pedagogy. The findings revealed that lecturers differed in their definitions and understanding of OER. Access to educational materials was critical in their definition and conceptualisation of OER. All six lecturers attempted to define the concept of OER. A huge dissimilarity in their clarification of the concept was evident. Altogether, 5 of the eight lecturers regarded OER as a resource that was easily accessible on the internet. Participant (Lecturer L) concurs that OER are educational materials made open and accessible to anyone. We need the information to be easily accessible. It is based on recognising that the world is riddled with massive socioeconomic inequalities. If that is the scenario, the United Nations is driving the agenda as the global body. The resources must be made available to the poorest of the poor. Findings showed that 2 of the 8 lecturers mentioned open licensing in their conceptualisation. Several scholars claim that the concept "open" means greater prominence must be given to sharing, re-using, and redistribution of OER amongst users to change the way OER is used as a global movement (Goodier, 2017; Kanwar et al., 2010; Madiba, 2018).

The second question explores lecturers' OER experiences in teaching and learning at faculties of education. It confirms lecturers' use of OER to introduce innovative ways of teaching and learning (Johnson et al., 2014; Jhangiani & Biswas-Diener, 2017). The spiral effect of participants' awareness of OER indicated that there could be a pedagogical shift in OER globally. Participant (Lecturer N) drives this point home: "Well, in the module I am developing, 90% of the articles I am developing are OERs. I know OER and could be the pedagogical shift as an enabler and game-changer globally." Lecturers remained aware of OER-enabler pedagogy in general and expressed positive views about this strategy to support their praxis and student learning. However, the findings revealed that 4 of the 8 lecturers had never used or been exposed to OER. Although lecturers were not empowered or trained in the practice or development of OER, lecturers were conversant with the concept. This is illustrated in the following remark: "It is about resources you can get from the internet and use, but you do not pay for them. You are supposed to get or request for permission. I can put them in the study guide. The lecturers' lack of awareness did not have a bearing on their views about the potential of the OER as an enabler of creating learning. Six of the eight lecturers were aware of the OER, revealing that awareness of OER at the three universities differs. Literature confirms that awareness levels differ at various higher-education institutions (Mishra, 2018). This is confirmed by Lecturer C, who commented that although he was not trained in OER, he is conversant with the concept: It is about resources you can get from the internet and use; you do not pay for them. You are supposed to get or request for permission. I can put them in the study guide.

The last question was asked about OER materials being used as artefacts by lecturers in teaching and learning at faculties of education. The findings revealed that lecturers use artefacts in their teaching and learning, as they mentioned using e-books and e-textbooks. This is illustrated by Lecturer H, who said that his course development involves some material I took from the internet. We use e-books and e-textbooks that I supplement by OER. Literature indicates that not all e-books, e-textbooks, or any free teaching and learning accessible on the net are OER materials. This further reveals that lecturers are not aware of what constitutes OER material. as. Therefore, lecturers lack knowledge of OER materials to assist them in integrating OER into teaching and learning, leading to the achievement of independent learning principles. Lecturers need to be capacitated to use OER in teaching and learning. Commonwealth of Learning (2011) contends that enhancing skills to adapt and contextualise existing OER to acknowledge students' diverse learning needs and support a range of learning approaches is one of the characteristics of the effective use of OER. One of the participants, on the staff of an open distance learning institution where OER is compulsory, indicated that they had initiated interventions. The results showed that only two of the eight lecturers received in-service training in OER and that self-regulation and self-directedness prompted them to gain awareness and knowledge of the OER concept by infusing e-books with other materials in the practices. So, provision is made for using OER in teaching and learning regarding continuous professional development, which the lecturer initiated and directed. Mishra (2014) confirms this by suggesting that OER-based online training can assist lecturers in accessing continuous professional development at universities that implement OER formally in their teaching and learning. The conceptual view of OER emphasises the interaction and collaboration of all stakeholders in implementing and adopting OER since they play significant roles in its infusion in teaching and learning. According to participants, OER encompasses open access, described as exposing local knowledge to global knowledge. These findings are consistent with that of Butcher and Moore (2015). After all, OER pertains to globally generating knowledge of all stakeholders (Ossiannilsson & Auvinen, 2012; Kanwar et al., 2011; Howell & Rodway-Dyer, 2010).

The above confirms the findings in the literature that lecturers' awareness of OER is influenced by numerous variables such as open access, cost, globalisation, and access to materials. However, there seemed to be no institutional influence on these variables. It also emerged that lecturers had different notions of what constitutes OER.

Conclusion

A large and growing body of literature exists on the usefulness of OER as an enhancer for student learning. However, the education sector needs to do more regarding the OER movement. This is evidenced by the findings that South African universities need to fill the considerable gaps in lecturers' conceptualisation of OER, which is critical to implementing OER-enabled teaching and learning at universities. In support of the findings, this study is grounded in the multifaceted theories that justified this investigation, which explores lecturers at faculties of education's views of the usefulness of OER for academic purposes at selected South African universities. Be that as it may, using OER in teaching and learning at South African universities faces several challenges. Whilst some lecturers viewed OER as educational material, most of them set great stores for free access to educational materials online. However, lecturers were aware of OER and displayed some understanding of the use of OER in teaching and learning, which did not translate into the benefits of OER and the 5Rs, which are retained, reused, revised, remixed, and redistributed. The study contributes to existing research by examining the lecturers at South African universities' conceptualisation of OER. Lecturers' understanding of OER and what they do with it in their teaching and learning activities are vital to reforming the education system. The findings of this study should contribute towards developing an OER distribution framework that would empower lecturers to implement OER in their daily teaching and learning effectively. The study examined participants' conceptualisation of the OERs. The findings reveal that although the lecturers were aware of OERs and their benefits, their understanding and knowledge of them were inadequate. In essence, lecturers have little or no understanding of the concept of OER. Neither do they have adequate knowledge to use OER in teaching and learning. They could not draw from the benefits of OERs, which, among others, include the 5Rs of Openness. Consequently, lecturers failed to infuse the potential of OERs in teaching and learning. It can be concluded that the lecturers cannot provide teaching and learning with additional resources for their students to augment their studies. Furthermore, lecturers may be reluctant to share knowledge with their peers because their knowledge of open licensing is inadequate. The study revealed that their inadequate understanding of OER affected its use in teaching and learning.

The sampling is limited because only twelve lecturers at three universities were sampled. The sample consisted of lecturers of faculties or colleges for teacher education.

What is now needed is for South African universities to ensure greater OER awareness and assist lecturers in acquiring knowledge of OER so that they can infuse and utilise it effectively in their daily teaching and learning environments.

Recommendations

The findings indicated that it is essential that the use of OER be included in teaching and learning practices. Based on the findings of the study on lecturers' use of OER in teaching and learning, the following recommendations (policy implications) are made:

Conceptualisation

Lecturers at South African universities need to be well-informed on the concept of OER. South African universities should introduce and offer continuous professional lecturer development programmes to expose lecturers to the concept of OER and its use in teaching and learning. These continuous professional lecturer development programmes cannot be overlooked, particularly for young lecturers who will still serve more years in the lecturing sector. Therefore, continuous professional lecturer development should be considered an awareness instrument for lecturers to be empowered or trained in the teaching practice, integrating lecturers who were not empowered or trained in the practice or development of OER, lecturers were conversant with the concept of using OER.

South African universities have also implemented teaching and learning policies that guide lecturers on using OER. These teaching and learning policies help mandate the use of OER in teaching and learning. In addition, these policies should address aspects such as awareness of the type of OER, intellectual property rights, and the reuse of OER in teaching and learning and professional development initiatives.

Use of OER

The study recommends the establishment of OER units on their campuses to put into motion all aspects related to OER-enabled pedagogy. The study also recommends that South African universities promote awareness of OER among their internal and external stakeholders to convince them to embrace OER so that they can implement it in their teaching and learning. The institutions should revise tuition policies to promote or advocate OER-enabled pedagogy. University libraries are strategically positioned to market OER continuously. Librarians need to work closely with the OER office to procure content for the repository and increase the number of deposits related to OER. University libraries and institutional OER units should be responsible for educational materials and collaborate to ensure a marketing mechanism that libraries can use to intensify awareness of OER. Their collaboration should lead to increased OER visibility at universities. Further investigations could include:

- The implementation of an OER strategy at private and public Technical, Vocational, and Educational Training (TVET) colleges and private universities.
- To promote and advocate OER-enabled pedagogy as part of an awareness strategy at South African universities other than those participating in this study.

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Authors Contribution Rate

Dr Setshedi contributed 60% of the writing and started the conceptualised ideas. Prof van Wyk contributed 40% with academic writing, the conclusion, and the overall final reading of the article.

Ethics approval

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