Chapter 14
Open Educational Resources in the English for Academic Purposes Context

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Abstract Since the introduction of open educational resources (OERs) in higher education, many university lecturers have developed or adopted them for their students. Most studies in the field have concluded that OERs can reduce the costs incurred by students and lead to positive learning outcomes. This study attempts to extend the current body of knowledge about OERs by examining the challenges and opportunities associated with developing and adopting them in an English for Academic Purposes (EAP) context. We conducted in-depth individual interviews with 14 EAP teachers who have experience adopting or developing OER materials at a Hong Kong university. The results suggest that quality, copyright, technology, and students' needs influence the development and adoption of OERs. The teachers also found that the use of OERs is affected by customisation, accessibility, cost, and how they differ from traditional materials. However, they indicated that they need more resources and training opportunities from administrators in order to develop OERs. Some of our findings can be explained by the fact that EAP is a discipline in which practitioners can easily locate and adopt OERs developed by other stakeholders, such as libraries. In addition, this study examines evidence from the interviews and provides practical suggestions for how the OER movement can move forward. These suggestions include providing multidimensional training, developing a course-based materials repository, and conducting continuous professional research. This study offers a new perspective on the OER movement, as it indicates that the requirements and challenges associated with each individual discipline must be examined

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for the better promotion of OERs; it also provides insight into the viewpoints of EAP teachers.

Keywords Open educational resources · English for academic purposes · Higher education · Teacher training

14.1 Introduction

Open educational resources (OERs) are resources that are freely available on the Internet with few legal, financial, and technical restrictions (Hylen, 2021). This implies that teachers can usually locate and use OERs without paying a subscription fee, facing any technical challenges (e.g., problems with adapting the file or source code), or obtaining consent (i.e., license restrictions). One common OER framework is the 5R framework presented by David Wiley (2014)—a pioneer in OER—which indicates that they can be retained, reused, revised, remixed, and redistributed. This framework helps to define the concept of "open" in OER. Since the introduction of OERs at a conference hosted by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2002, the development, sharing, and adoption of OERs have become widely prevalent. There are OER projects and repositories worldwide, including those in Australia, the United States, the United Kingdom, Canada, and Europe (Pelletier et al., 2021). A few practical examples of OERs include the Australian Politics and Policy Open Textbook Project and the Zero Textbook Cost Initiative. The former provides textbooks on the website of the Sydney Open Library (https://open.sydneyuniversitypress.com.au/) and allows users to read them for free. The latter was initiated by The College of Cantons and also provides users with free access to course textbooks (https://www.canyons.edu/ztc).

Digitally accessible OERs have long attracted attention in the higher education (HE) sector (Jung & Lee, 2020; Jung et al., 2017). Due to the unprecedented challenges brought about by the pandemic, HE practitioners began to see an imminent need to search for appropriate OER materials to effectively deliver courses online (Huang et al., 2020; Pelletier et al., 2021). OERs allow educators the flexibility to adopt free materials from one or multiple sources for their classes (OECD, 2007; UNESCO, 2002). Some obvious strengths of OERs include cost reduction and the improvement of educational quality (Tillinghast et al., 2020). However, the implementation process can be challenging (Schaffert, 2010). Teachers struggle with issues such as identifying high-quality OERs, finding enough OERs to cover the scope of their curricula, managing copyright issues, achieving sustainability, and keeping track of links that disappear (Kaufman & Campana, 2019). This chapter examines how Hong Kong teachers adopt and experiment with OERs in an EAP course with over 2,500 students. We present suggestions to overcome the challenges of implementing OERs in language courses based on our findings. This study contributes to the body of knowledge in the field by improving the understanding of adopting OER in an

EAP context. It concludes with the research and pedagogical implications of OER adoption.

14.2 Literature Review

Recent studies have shown that OERs are increasingly being developed, applied in HE, and positively impacted (Jung & Lee, 2020). One reason for this is that, as textbook prices increase—and having access to a textbook can impact students' grades (Prasad & Usagawa, 2014) or ability to complete a course (Gale, 2016; Hilton, 2016)—OERs can provide a free alternative.

In English language teaching, most institutions and centres rely on mass-produced materials (e.g., course textbooks) in courses on English for Academic Purposes (EAP), which is defined as "teaching English with the aim of assisting learners' study or research in that language" (Hyland, 2006, p. 1). The use of these mass-produced materials is not very successful in facilitating authentic language acquisition (Tomlinson, 2012). Numerous authors have noted the shortcomings of published coursebooks (Chao, 2011; Kohnke, 2019)—such as the fact that the target language is not contextualised, salient, and/or encountered frequently (Maley, 1998, 2016). They focus on teaching linguistic forms rather than acquisition and development (Tomlinson, 2010). This has led to EAP teachers frequently engaging in "re-design" work: "tweaking, adjusting and adapting materials to suit particular needs" (Samuda, 2005, p. 235) and providing rich and meaningful exposure to language (Day & Bamford, 2004). For example, they develop new materials or adapt existing content to provide students with more practice with grammar points, guidance on pronunciation, and familiarity with the words in reading passages.

Studies comparing students who use traditional and open textbooks have discovered no significant differences in terms of grades or course completion (Allen et al., 2015; Choi & Carpenter, 2017; Croteau, 2017; Fialkowski et al., 2020; Fischer et al., 2015; Hendricks et al., 2017). Instead, the findings indicate that implementing open textbooks may allow students to take more courses concurrently and graduate earlier (Fischer et al., 2015).

Furthermore, numerous studies suggest that students use traditional textbooks and OERs side-by-side (Hendricks et al., 2017). However, they perceive OERs to be of higher quality (Everard & Pierre, 2014; Hilton et al., 2013; Jhangiani & Jhangiani, 2017)—significantly higher than required course materials and readings (Cooney, 2017). This is an important finding, as students' investment, commitment, and participation in a course are critical for positive learning outcomes (e.g., course completion). OERs have been shown to enhance students' engagement in and satisfaction with their courses (Cooney, 2017; Rowell, 2015), as they can be personalised.

Another benefit of implementing OERs is that teachers can use them to share resources. Additionally, they can update, customise, and revise them collaboratively instead of developing new materials every semester. However, while permitting teachers to choose from different forms of OERs (e.g., lecture materials, textbooks,

quizzes, websites, massive open online courses [MOOCs] and small private online courses [SPOCs]) offers autonomy, it can also be a burden because of the time required to become familiar with these options. Thornbury (2000) recommends that teachers should not be dependent on commercial textbooks; however, they need help adapting materials (McDonough et al., 2013), as it is often not part of their repertoires and is not "easily picked up" (Samuda, 2005, p. 236). Tsui (2003), in a seminal study on teacher expertise, found that teachers often could not decide "whether activities were well designed" (p. 213). Additionally, EAP teachers must consider the forms of technology (e.g., e-textbooks, apps, websites, MOOCs, SPOCs) that will optimally teach the target language (e.g., fluency, accuracy, appropriacy) and digital skills. Therefore, it is important to allocate appropriate resources (both human and monetary) when choosing OERs so that they can be adopted and employed properly (Jung et al., 2020).

Despite the strengths of OER in HE, the decision to adopt them has been primarily left up to individual teachers. Padhi (2018) found that OERs are chiefly adopted in India because they improve teachers' job performance, and teachers find them easy to access and adapt. Mtebe and Raisamo (2014) found that Tanzanian teachers' decisions to use OERs can be explained by their expectation of the effort it will require. Belikov & Bodily (2016) examined the reasons why OERs are adopted in the United States and found that cost savings, pedagogical benefits, and institutional support are the key factors. In the United Kingdom, teachers support adopting and adapting OERs for altruistic reasons (i.e., because of the free open access to legacy materials) (McGill et al., 2013). These examples explain why teachers in various cultures use OER. Further research into the use of OER in additional contexts is necessary.

Scholars have also explored how educators adopt OERs. Wiley et al. (2014) in the United States, de Hart et al. (2015) in South Africa and Padhi (2018) in India found that most teachers adopt the same OER regularly without modifying the materials. In HE, textbooks are primarily published in a print format, and OERs have not yet been widely adopted. In addition, not all socio-economic groups can access them equally. Students may not have adequate Internet access at home or may lack a laptop, desktop, or tablet they can use to obtain and complete assignments. Other challenges are links that no longer work and issues related to quality, copyright, data security, and privacy. These problems will have to be resolved to make OERs sustainable and widely adopted by teachers and students.

14.3 Methodology

This qualitative study explored EAP teachers' perspectives on adopting OERs for use in a large-scale EAP course in Hong Kong. It employed an interpretive approach using semi-structured interviews to reveal the full complexity of the teachers' views and the strategies and steps they employ (Creswell, 2008).

14.3.1 Context of the Study and Participants

All participants in this study teach a compulsory, three-credit EAP course offered by a public English-medium university in Hong Kong. In earlier studies, undergraduates in Hong Kong were not aware of OERs. However, with the improvement of the information and communication infrastructure—which, according to Li & Wong (2014), is helpful in implementing OERs—subsequent studies have indicated that students perceive OERs to be useful to supplement course textbooks and assignments (Cheung, 2019). While the perception of students is beyond the scope of this paper, these studies reveal that Hong Kong students are generally aware of OERs, and they are not new to them.

All first-year students at the university in this study are required to complete a three-credit, 13-week EAP course: English for University Studies. This includes students from various disciplines, including Applied Science, Business, Engineering, Health Science, Hotel Management, and Design. The learning objectives of the course are that students can (1) incorporate sources into academic essays and presentations; (2) paraphrase and summarise a variety of written and spoken texts; (3) develop expository essays effectively; and (4) give academic presentations. The course includes three assessments: an in-class academic essay, a take-home essay, and an in-class presentation. Moreover, to supplement the standardised notes distributed through the university-wide learning management system, students are expected to extend their learning and succeed in the course by accessing OER materials through links provided in the course material. For example, in the course material on referencing, there are links to YouTube videos on referencing (hosted by the research site) that students can watch to supplement what they have learned during class. Other examples include videos on presentation skills, web-based activities on reporting verbs, and PDF worksheets on academic style. Approximately 2,500 students participate in the course each year.

The participants of this study were selected from over 40 teachers who teach this course. They were invited to participate because they had experience developing or implementing OERs. Fourteen participants (seven men and seven women) who met the criteria agreed to participate in the study. Table 14.1 outlines the participants' demographic information. Only six participants had prior OER development experience; three had no previous materials development experience at all. They had between four and 20 years of teaching experience. All of the participants signed a consent form and were assigned pseudonyms.

OERs were not new to the participants in this study, as the research site is heavily engaged in OER development. It has developed a MOOC about applying for jobs in Asia, which is hosted on EdX, and a SPOC on grammar. In addition, the research site hosts a YouTube channel with more than 280 videos, of which more than 90 were designed for the aforementioned EAP course. The self-access centre at the research site also provides a range of free and open materials, including interactive EAP/proficiency-based activities and PDF worksheets. The participants in our study had been directly involved in developing materials for these OERs or were made

Table 14.1 Demographics of Interviewees (N = 14)

#	Pseudonym	# Years of EAP teaching experience	# Years of material development experience	# Years of OER development experience
T1	Joseph	5	1	0
T2	Marvin	4	0	0
T3	Rachel	8	2	0
T4	Alexandra	10	4	1
T5	Julie	9	3	0
T6	Robert	11	5	1
T7	William	3	0	0
T8	Anna	14	4	0
T9	Bob	9	3	0
T10	Lauren	20	7	4
T11	John	8	3	2
T12	Evan	15	5	3
T13	Delilah	6	0	0
T14	Molly	12	5	4

aware of them in formal meetings. For the EAP course, teachers are provided with standardised notes but can also design additional materials using OERs. Therefore, our participants were well aware of the use and development of OERs.

14.3.2 Data Collection and Analysis

This qualitative study used individual semi-structured interviews conducted in English to gain insight into issues (Creswell, 2008). The interviews lasted an average of 32 min and were audio-recorded. The following open-ended questions were asked in the interviews:

- In your opinion, what constitutes OERs?
- Do you know where to find OERs?
- What are the advantages of OERs (for teachers and students)?
- What are the disadvantages of OERs (for teachers and students)?
- What skills do we need to develop OERs?
- What support do we need from the administration to develop OERs?
- How can we make OERs sustainable?
- How motivated are you to develop OERs?
- What is the main challenge you have faced in developing materials?
- Overall, how would you rate your experience developing non-OERs versus OERs?

The rich data collected were subjected to thematic analysis in line with Braun & Clarke's (2006) six-step analysis framework. First, we transcribed the recording and sent a copy of the transcription to each of the 14 participants. We then familiarised ourselves with the data by (re)-reading the transcriptions. Then, each author independently conducted the first round of coding and collated the codes into themes. After this, we employed the code-recode strategy suggested by Anney (2014) to improve the reliability of the findings. Thus, the first round of coding was followed by re-coding one and a half weeks later. After the re-coding, the results were nearly identical, indicating that they were dependable. We then generated a "thematic map" of the analysis. This was followed by refining the themes and creating an "overall story of analysis" (Braun & Clarke, 2006). In the final step, we chose representative excerpts for the final report. We also performed the second member check (Nowell et al., 2017) by providing each participant with a copy of the results (e.g., themes and representative quotes). The participants did not request any amendments. In the following section, we will discuss the findings of the interviews.

14.4 Results

We began by asking the participants about the types of OERs that they use. The materials mentioned most frequently were MOOCs, followed by worksheets/PDFs. The items mentioned least frequently were e-textbooks. Other resources mentioned by the participants included SPOCs, websites, and apps.

After exploring the nature of OER materials, we examined the opportunities and difficulties teachers face in developing and adopting OERs in the EAP context. A total of 88 responses were coded using the previously-described thematic analysis approach. Ten recurring themes were identified. The most frequently-discussed themes were the needs of students, time, and accessibility. Other recurring themes included the differences between OERs and traditional materials, copyright, quality, technology, customisation, cost, and necessary skills.

To further conceptualise and illustrate the recurring themes, the research team developed the thematic map in Fig. 14.1 based on whether the participants described a theme as being related to OER development, adoption, or both. This figure resulted from axial coding and the aforementioned six-step coding process. Participants made frequent references to four themes (the needs of students, technology, quality, and copyright) when discussing both the adoption and development of OERs. They typically mentioned the remaining themes when discussing either the development or adoption of OERs; these themes were grouped accordingly.

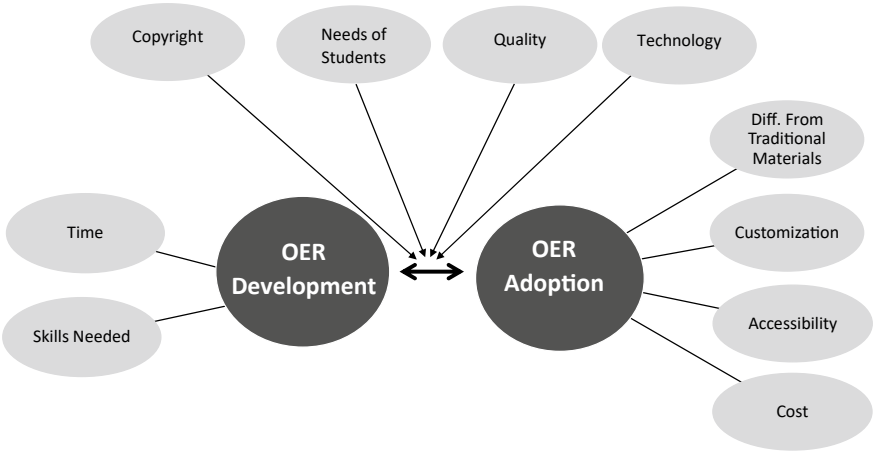

Fig. 14.1 Relationships of themes to OER development and adoption

14.4.1 Themes Affecting Both Development and Adoption

Four themes were related to both the development and adoption of OER: the needs of students, technology, copyright, and quality. When interviewees described adopting OERs, they discussed wanting to "personalise [the materials] depending on their [students'] needs" [T2 Marvin]. This means that teachers hope to use available OERs and modify them to match the content of their lesson plans. The participants often referred to the needs of their own students rather than those of students in general. This was strongly connected with the theme of customisation. However, the participants believed that if they were to develop OERs, they would have to consider diverse needs "as students will be from all over the world" [T4 Alexandra]. In other words, the participants said that they would develop OERs that could be used by all students, not only the students in their classes.

Technology is another key factor affecting both OER adoption and development: the interviewees were worried about the need to use technology both to develop new OERs and design activities based on existing OER materials: they noted that they would need to understand and perhaps use unfamiliar forms of technology. For example, Anna [T8] mentioned the need to think of ways to "maximise the learning with the e-book". This could mean utilising e-book technology for a particular activity. The teachers believed that developing OERs may not mean presenting all materials in a document (e.g., a PDF file); rather, they may need to use unfamiliar technology to develop interactive activities.

Copyright issues and the quality of OERs were of lesser concern. However, a few interviewees were apprehensive that "sometimes the quality [of materials] might not be great" [T3 Richard]. They also discussed the quality of the materials they would develop: "Our name will be on it, and our reputations are important" [T8 Anna]. However, they discussed the concept of quality in general and did not provide details

on how they defined it. When they discussed developing OERs, the teachers also expressed concern about copyright issues related to using OERs and copyrighted images, especially in the EAP context. They noted that language teaching materials require images: "Find[ing] suitable images that I can use freely without copyright protection is the main disadvantage [of developing OERs]" [T9 Bob].

These four themes (the needs of students, technology, quality, and copyright) were identified as the primary challenges related to the development and adoption of OERs. The following sections describe challenges and opportunities exclusively related to either adoption or development.

14.4.2 Themes Affecting Open Educational Resource Adoption

When interviewees described the adoption of OERs, the key challenge that they mentioned was accessibility. This theme was often mentioned in a negative sense. Because OERs are hosted online, teachers cannot ensure their accessibility over time and often lose access to them: "One day, the link is working; the next day it's broken" [T1 Joseph]. Given this unreliability, "you continuously have to check before walking into the classroom if it is working" [T1 Joseph].

However, they noted that many opportunities were inherent in the adoption of OERs in the classroom. A key opportunity was the ability to reduce costs for the students by obviating the need to buy expensive textbooks and/or materials. However, they mainly discussed costs in general terms; they did not mention any specific cost reduction needs or particular significant costs in their teaching contexts. Besides cost reduction, they mentioned that OERs allow teachers to customise and differentiate materials. In general, the teachers thought that OERs could be retrieved and modified to fit their teaching and learning purposes because they could "decide when to update, what to update, and perhaps what to delete". William [T7] expressed a common sentiment: "I feel more in control of the content I'm teaching." As previously mentioned, the idea of customisation seems closely related to the theme of students' needs because teachers generally customise materials for their students.

Another interesting theme was that teachers believed that the differences between OERs and traditional educational materials in terms of delivery (e.g., interactive online pages vs static PDFs) and country of origin (e.g., materials from U.S. universities) could motivate students to learn more effectively. For example, when teachers assign OERs designed in other parts of the world, students "are more motivated as they can see what students are doing in other countries" [T5 Julie]. This was an unexpected theme and deserved further discussion. Overall, the teachers were optimistic about adopting OERs, while they seemed more pessimistic about their ability to develop OERs.

14.4.3 Themes Affecting Open Educational Resource Development

The teachers tended to believe that developing OERs takes more time than they are provided. It takes "time and effort" to develop these materials, Bob [T9] said, and "it is not just, 'let's do this'" [T11 John]. The participants also did not feel that they had the skills needed to develop OERs because it requires "excellent skills to develop quality materials" [T8 Anna], and it is "very time-consuming and challenging to figure out different activities" [T9 Bob]. Some participants also related this theme to technology because they were unfamiliar with the technical skills needed to develop meaningful OERs. This may include the technical skills to develop an interesting activity that can allow learners to engage meaningfully with an OER (e.g., the interactive feature of an e-book). A noteworthy idea that emerged from the data was that the challenge of developing teaching materials was not exclusive to OERs. One respondent said explicitly that the challenges inherent in developing OERs "were no different" from those associated with developing traditional materials [T4 Alexandra].

14.5 Discussion

14.5.1 Features of OERs in EAP

While the key purpose of this study is to examine the opportunities and challenges in OER adoption and development, the materials identified as OERs by EAP teachers also deserve attention. Most EAP teachers in the current study described OERs as online materials, including MOOCs, SPOCs, and online worksheets. Some common types of OER—such as e-textbooks (see the lists of OERs in Allen et al., 2015; Choi & Carpenter, 2017; Croteau, 2017)—were seldom mentioned. The EAP teachers in the current study may be accustomed to using OERs developed for EAP courses, such as YouTube videos and the MOOCs/SPOCs created by the unit at the research site. Students in this course are offered PDF notes for free, and no textbook is required.

Furthermore, most teachers have access to online materials that they can freely adapt for their students. This process aligns with the concept of OERs as defined by the OECD (2007) and UNESCO (2002), which is explained in greater detail in the introduction of this chapter. More importantly, free resources related to EAP, including guides for referencing skills, the use of sources, and essay writing skills, are available from libraries and other reputable institutions (such as the Purdue OWL Writing Lab). Therefore, EAP teachers are used to considering all open online materials to be OERs. The ready availability of OERs in the EAP context seems to be related to the participants' perceptions of challenges and opportunities, which are discussed in the following section.

14.5.2 Challenges and Opportunities of Using Open Educational Resources in English for Academic Purposes

14.5.2.1 Cost-Savings

The participants in our study considered cost savings to be a strength of OERs but found them less critical than teachers in non-EAP contexts (Belikov & Bodily, 2016; Fischer et al., 2015; Tillinghast et al., 2020). This can be considered a potential opportunity for using OER in EAP. A possible explanation for cost savings is that the participants already have access to OERs for the EAP course they teach, including PDF notes and more than 90 videos on a YouTube channel tailor-made for the course. The library also offers EAP materials, such as referencing guides. Thus, EAP students usually do not need to rely on OERs because they have access to a sufficient number of free materials. This may explain why the teachers in our study considered cost savings a benefit but not a critical one.

14.5.2.2 Customisation

However, the teachers in the current study repeatedly mentioned the importance of finding and repurposing OERs to meet their students' needs, which provides both challenges and opportunities. For example, when teachers explain the mechanics of referencing in an EAP context, they may consider whether an open-access online video on academic referencing can help them achieve their key objectives. While customisation has been reported as a benefit of OERs in this study and other studies (e.g., Padhi, 2018), our findings suggest that there is so much material available that teachers' focus has shifted to identifying appropriate materials and determining how to repurpose them. For example, a simple search for academic writing yields a range of resources—including videos, PDF guides, and websites—published by reputable sources such as the American Psychological Association (https://apastyle.apa.org/), the BBC (https://youtu.be/LEi8Cs2z0Q4), SAGE Publications (https://uk.sagepub.com/en-gb/eur/mastering-academic-writing), The Hong Kong Polytechnic University (https://literacy.elc.polyu.edu.hk/), The University of British Columbia (https://scwrl.ubc.ca/) and Griffith University (Australia; https://www.griffith.edu.au/library/research-publishing/academic-writing). Choosing which materials to repurpose can be challenging when there are so many reliable sources.

14.5.2.3 Copyright

The participants also raised the possibility that they could run into copyright issues when designing materials to meet their students' needs. Discussions of copyright issues in previous studies of other disciplines (e.g., Kaufman & Campana, 2019)

mainly concerned OERs in general and did not address the need for copyright-free images. Although copyright-free images are available in the engineering context (e.g., illustrations of engineering processes), finding copyright-free images for EAP is not easy. Using images affects students' interest, motivation, satisfaction, and engagement (Cooney, 2017; Rowell, 2015). Therefore, this is an issue specific to meeting the needs of EAP students.

14.5.2.4 Time and Skills Needed for OER

Additionally, teachers struggle to attain the resources needed to develop OERs, including time, skills, and technology. They want to ensure that their materials meet their students' needs but feel they are not equipped to do so. Jung et al. (2020) stressed that financial and human resources are needed in OER development, which is reinforced by our study. Even though the participants had experience with MOOCs and the open online materials embedded in the course, they would still require training and support to develop materials. This suggests that the "initial OER" stage described by Jung et al. (2020) can be quite extensive. Furthermore, it can not only involve developing OERs but also locating and repurposing them for individual classes. Therefore, providing resources for OER development and adoption should not be a short-term but a long-term process.

14.5.2.5 Differences from Traditional Materials

Another interesting theme that emerged from this study was that OERs could demonstrate how institutions around the world introduce content. Past studies reported that participants (students and teachers) perceive OERs to be of higher quality than traditional teaching materials (Everard & Pierre, 2014; Hilton et al., 2013; Jhangiani & Jhangiani, 2017). Similarly, EAP teachers in the current study reported that using EAP materials from other countries, such as the United States and the United Kingdom [T5 Julie], can motivate students. They can see what students at other universities are learning and compare themselves to these students. For example, if students are taught how to format citations using worksheets designed by their teacher, they may view the task as a course requirement. However, if they are given worksheets developed by a reputable university, they realise that the formatting is required internationally and be motivated to learn. This perspective on quality is a valuable observation not previously reported in the literature. Integrating international OERs can positively impact student satisfaction and engagement by increasing investment, commitment, and participation in EAP courses (Cooney, 2017; Rowell, 2015).

14.5.2.6 Accessibility and Customisation

Accessibility remains a crucial concern of teachers who adopt OERs. Additionally, as reported in this study and previous research, customisation is key to the successful use of OERs (Kaufman & Campana, 2019). Therefore, it is unsurprising that our participants stressed the importance of two aspects of accessibility: access to resources and the ability to modify them. In terms of access, they indicated they needed to check that the resources they used remained available over the term. The "broken link" issue, previously reported by Kaufman & Campana (2019), is important because teachers want to identify materials that they can use routinely (Wiley et al., 2014). Regularly checking links requires time and effort (Mtebe & Raisamo, 2014), which decreases the likelihood that instructors will adopt OERs. Issues with accessibility are universal and not specific to EAP. When systems are updated, older HTML or JavaScript codes used on certain OER pages cease functioning. For example, Flash-based materials were once favoured because they allowed interactivity and animation, but Adobe Flash Player is no longer supported (Adobe, 2021). Therefore, teachers who rely on Flash-based learning materials can no longer use them and must locate new resources.

Furthermore, challenges with accessibility can be a push factor for the development of OERs. EAP teachers in this study, like teachers in other disciplines who participated in previous studies, said that OERs must be adaptable (Wiley et al., 2014). However, many OERs are PDFs, which cannot be edited easily. For example, a teacher who wants to include examples of IEEE or Vancouver style references to a PDF about the APA referencing style may be forced to add a sticky note to the file, which is not reader-friendly. Therefore, making PDF files editable could be considered a potential avenue for OER development.

A similar theme emerged when the teachers described the need to develop OERs or modify them for online delivery during the COVID-19 pandemic. Traditional PDF documents were not interactive and could not be delivered effectively using the Share Screen function on Zoom. This challenge was not identified in studies conducted before the pandemic, but it points to another challenge related to PDF-based OERs. The teachers believed that PDF materials must be improved to facilitate online delivery. This suggests that, in addition to other push factors reported in previous studies (e.g., cost savings; Belikov & Bodily, 2016), the pandemic helped teachers develop OERs for online teaching and learning.

14.5.3 Limitations

Despite our efforts to ensure the reliability and validity of this interpretative research, several limitations deserve the reader's attention. First, the authors believe that the sample was representative. However, teachers at the research site are exposed to a range of OERs, including MOOCs and YouTube channels. Thus, they may better understand OERs than many other teachers. That could affect the generalizability of

this study or its applicability to other contexts. Second, this study adopted a proper quality assurance mechanism to ensure the validity of the coding process, but the process is inherently subjective. As the nature of an interpretative study is to examine the evidence—in this study, interview transcripts—from a subjective perspective, the researcher is part of the data analysis process. Moreover, coding can be understood as a subjective construct, which could affect the reliability of the current study.

14.6 Implications and Practical Suggestions

This section provides suggestions for EAP practitioners and researchers related to advancing the OER movement. They rest on the thematic map (Fig. 14.1) presented in the previous section. As shown in Fig. 14.2, we suggest (1) a course-based material repository, (2) professional research on necessary resources, (3) multidimensional training, and (4) continuous research.

14.6.1 Building a Course-Based Open Educational Resource Material Repository

This study suggests that there are sufficient OER resources in the EAP context, but teachers have accessibility concerns that reduce their willingness to use them. To

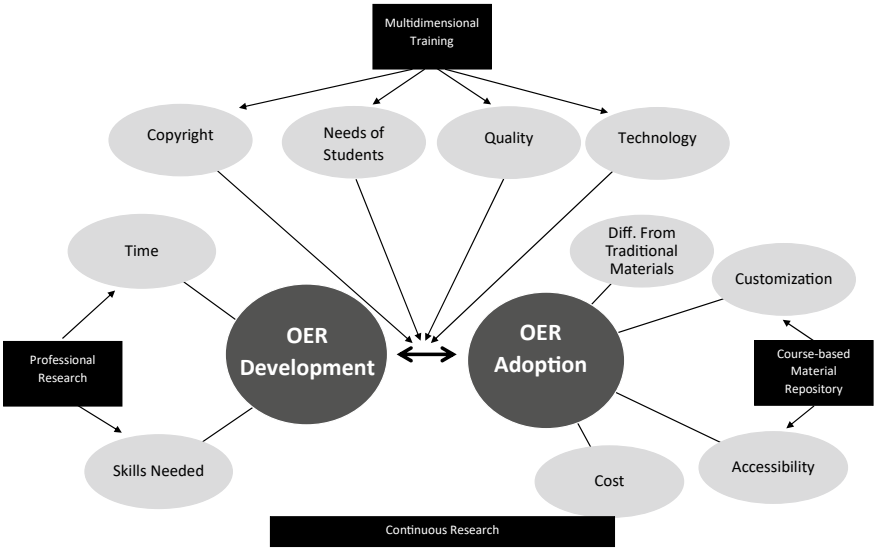

Fig. 14.2 Illustration of relationships

address this issue and allow for the efficient use of OERs, course designers could establish an OER repository. This could be as simple as a shared spreadsheet with a list of resources or a sophisticated webpage with a search function. For example, an OER repository of writing resources has been established by another project at the research site; it includes PDF-based worksheets and interactive online activities (Foung & Lughmani, 2019). These resources are stored in a searchable repository (see https://literacy.elc.polyu.edu.hk/) so language teachers and discipline teachers can search for what they need for their lessons.

Regardless of the form they take, such repositories should contain lists of materials that could be used in particular EAP courses. Each entry should include the title, topic, purpose, developing institution, required time, and a link to the relevant OER. Teachers could add, update and remove entries to keep the list up-to-date. In addition, there could be an auto-generated date of the last update (i.e., the last time the entry was edited) and a function that notifies users when an entry is deleted or updated.

Such repositories could reduce the time needed to locate appropriate resources. Any teacher on the team who identified or adopted an OER could add it to the repository based on their experience using it. Other teachers could consider adopting the OER based on the developing institution and the needs of their students, two of the keys to adoption discussed in this study. If this teacher could not locate the resources using the link, they could delete the entry and teachers who had signed up for notifications would be notified that the materials were no longer available, saving them from having to check the link themselves.

The authors would like to emphasise that the form of the repository is unimportant. The value is the time saved when team members can choose from resources recommended by their colleagues rather than searching through the vast pool of material on the Internet. However, a notification feature related to updates and changes in the availability of resources could lead to greater efficiency.

14.6.2 Professional Research on the Development of Materials

This study provides strong evidence that teachers do not have enough time and support to develop OER materials. Although an extensive training plan needs to be developed, as discussed in the following section, administrators must also be convinced to provide teachers with sufficient time and training. One possibility would be to develop a research programme to examine the time and resources needed to develop course materials. Previous academic research has focused on the process of curriculum development (Zhadko & Ko, 2019), but insufficient research has been conducted on material development. Unlike research intended to advance knowledge about OER (discussed in a later section), this line of professional research would provide empirical evidence that could be used to persuade administrators to provide more resources for material development. A practical example of relevant

professional research would be to recruit individuals who create OER materials and conduct interpretative and longitudinal interviews with them. These interviews could explore their needs, feelings, and challenges at various stages of development (e.g., being assigned the task, meeting with team members, developing drafts, receiving feedback, revising and finalising materials, and introducing them to team members). Such empirical studies could provide evidence to present to administrators regarding the time and resources required to develop OER materials.

14.6.3 Multidimensional Training Activities

In addition, we found that the participants in our study had not received enough training to develop OERs. As well as resources, teachers need targeted training. Training sessions could be provided in three areas: (1) the development of teaching materials for classroom use, (2) the development of OERs, and (3) the adoption of OERs.

Training teachers to develop general teaching resources falls outside the scope of this paper but does affect the development of OERs. Most teachers in the current study perceived the development of OERs to be accompanied by unique challenges. However, this is a contextual issue. The teachers in the current study were accustomed to developing materials for the use of an entire team (i.e., standardised notes for use across different sections of a course). This may not be common in all contexts because some institutions do not have standardised notes (or even assessments) for all sections of a course; teachers only develop materials for their classes. Therefore, these teachers may need training on developing materials for team use, as this skill is a prerequisite for the effective development of OERs. These sessions could address the stages of development, what to include to ensure effective communication with other teachers, and how to address issues raised by stakeholders. While these training topics would be relevant to teachers in the EAP context, they could also prepare teachers to develop OERs for delivery in various contexts.

Beyond this basic training, specific training on the development of OERs could address various issues identified in the current study. First, training sessions should provide information about copyright regulations and suggest websites that host copyright-free images. Second, they should inform teachers about simple forms of technology used in OERs. Third, they should give teachers hands-on experience developing simple activities using PDF-based worksheets. These sessions should not focus on conventional topics, such as developing a quiz on the learning management system or simple instructional programmes such as *Kahoot!* Instead, teachers should gain hands-on experience using basic HTML to develop quizzes and learn about websites that provide helpful HTML and JavaScript source codes. This would prepare them to develop standalone OERs independently.

Teachers should also be provided training on the adoption of OERs, even though most of them understand the general concept. First, they should be introduced to copyright issues that can arise when adopting materials. They need to know, for

example, whether they are free to use an OER if they simply cite the source. Furthermore, instructors must be empowered to understand technologies that enable them to customise materials. For example, they could be taught how to convert a PDF file into an editable file or use an HTML page in the face-to-face classroom. While these simple technological issues are covered in workshops on Adobe Acrobat and webpage design, teachers need these specific skills (rather than the whole suite of skills related to Adobe Acrobat) when adapting materials. These workshops could reduce the effort required to modify OERs and thus increase teachers' motivation to do so.

14.6.4 Continuous Research on Open Educational Resources in English for Academic Purposes

This section describes potential avenues of research that could contribute to the promotion of OERs. The continuous research described in this section would be aimed at developing OER in general and be relevant to all aspects of the themes described. It is vital to examine students' needs in the development and adoption of OERs and how teachers and material developers perceive them. Research conducted in the traditional classroom provides evidence on best practices related to developing effective and engaging materials, but developers of OERs must consider the diverse needs of students in different cultural contexts and disciplines. This line of research could help the academic community rethink the development of materials for OER purposes.

Further cross-disciplinary research is also needed to examine sociotechnical issues related to OERs. This line of research should be conducted with computer scientists specialising in system development and maintenance. Potential research problems could include finding a compromise between software updates and compatibility with OERs. For example, both Drupal and WordPress have undergone software updates, and more research can be done on how system administrators address the compatibility issues of these systems. Research could also focus on best practices in designing sustainable materials from a system compatibility perspective. These lines of research would allow practitioners to reduce sociotechnical issues, such as accessibility, in developing and adopting OERs.

14.7 Conclusion

This study examined the challenges and opportunities of developing and adopting OERs in EAP courses at a Hong Kong university. We adopted an interpretative approach and interviewed EAP teachers on their perspectives. Although teachers believe it is essential to address students' needs through the customisation of

OERs, they have concerns about accessibility, time, and skills. To better foster the advancement of the OER movement in the EAP context, these issues could be addressed by providing multidimensional OER training activities, establishing a course-based OER material repository, and implementing research on OER design. These methods would allow EAP practitioners to develop and adopt OERs more easily and effectively.

This study makes an important contribution to the body of knowledge related to the OER movement. First, the evidence presented in the current study provides a vivid picture of how teachers in the EAP context adopt and develop OER materials, issues which have been little examined in earlier studies. Second, as well as providing broad recommendations for the direction of future research, this study makes specific and practical suggestions that can be easily adopted by EAP practitioners or teachers in other disciplines. Third, while previous studies have presented solid evidence about the perspectives of teachers and other individual groups of stakeholders, the evidence and suggestions discussed in this study aim to connect the views of these different stakeholders (e.g., teachers, administrators, and course leaders) to better support the development of OERs.

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