Localization of Open Educational Resources by Facilitators of a Human Rights Course in Ghana

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Localization of Open Educational Resources by Facilitators of a
Human Rights Course in Ghana

Emily Durham Bradshaw

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Master of Science

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ABSTRACT

Localization of Open Educational Resources by Facilitators of a Human Rights Course in Ghana

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Master of Science

Research on the use of Open Educational Resources (OER) often notes the potential benefits for users to revise, reuse, and remix OER to localize it for specific learners. However, a gap in the literature exists in terms of research that explores how this localization occurs in practice. This is a significant gap given the current flow of OER from higher-income countries in the Global North to lower-income countries in the Global South (King et al., 2018). This study explores how OER from one area of the world is localized when it is used in a different cultural context. As part of a larger ed-tech project in Ghana, I piloted a human rights manual that I helped develop and interviewed six facilitators of that course to see how they tailored the course to their students in Ghana. The goal was to understand their experience, their decisions, and their challenges and to explore the practice of localization and the challenges and affordances related to that practice.

Findings indicated complex encounters with decontextualized content and a variety of localization practices. Participants expressed feelings of ill-fit and cultural tensions in navigating between the human rights content in the OER manual and local cultural practices. They also experienced challenges with technology due to low bandwidth and hardware problems, as well as language problems given Ghana’s history of colonial rule. Native speakers of Twi are less proficient reading Twi than their national language, English. As facilitators worked to overcome these challenges, they were most likely to informally localize content in intuitive ways during the class based on students’ needs. Informal, in-the-moment practices included translating content into Twi, persisting through technological challenges, using local stories and pictures, localizing through discussion, and teaching responsively. While none of the participants were initially aware of OER and its unique permissions, as they became aware of OER, discussion around localization included these themes:

1. The burdensome process of localization
2. Need for support
3. Need for flexible formatting to allow editing
4. Technological barriers
5. The practice of remaking the lessons into tailored slide presentations.

These findings have implications for designers of OER and their awareness of real mismatches and otherness created by decontextualized content. There are also suggestions for ways to apply findings and design intentionally with space for localization. More research on the practice of OER localization would refine our understanding of how OER is localized and what barriers and affordances exist to this practice.

Keywords: open educational resources, localization, Ghana, qualitative research
ACKNOWLEDGMENTS

This thesis has taken me over two years and across two oceans. I am grateful for the help from IP&T mentors Dr. Richard West and Dr. Royce Kimmons for their feedback as committee members. I give extra thanks to my committee chair, Jason McDonald, for giving me nudges of encouragement to push through difficult stages and for reading and giving insightful comments that improved my document and my process. Thanks to my mentor, Tiffany Ivins Spence, and Community Development Network for allowing me to meet up with them in Ghana as they piloted RACHEL servers, getting open content to people in low-bandwidth areas. Thanks to my five children for coming along and making good friends in Ghana with everyone except the baboon that came into our hotel room. Thanks to my husband for filling in the gaps during a pandemic with children learning online and me at the computer. His support through this experience has been everything. Finally, I acknowledge my friends in Ghana who generously gave of their time and insights to this project.
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CHAPTER 1

Introduction

For the past 20 years, researchers have touted the promise of Open Educational Resources (OER) and their potential to provide access to education for all people, everywhere. According to a white paper by the William and Flora Hewlett Foundation (2013),

These digital materials have the potential to give people everywhere equal access to our collective knowledge and provide many more people around the world with access to quality education by making lectures, books, and curricula widely available on the Internet for little or no cost. By enabling virtually anyone to tap into, translate, and tailor educational materials previously reserved only for students at elite universities, OER has the potential to jump start careers and economic development in communities that lag behind. Millions worldwide have already opened this educational lockbox, but if OER is going to democratize learning and transform the classroom and teaching, then it must move from the periphery of education practice to center stage. (p. 4)

This “lockbox” metaphor suggests that educational content and opportunities are kept out of reach from vast demographics of learners due to their socioeconomic circumstances and the price wall of copyrighted materials, even when digital advances afford greater sharing potential than ever before. The assumption here is that learners will be able to access or tap into the free content from education sites and elite universities, despite differentials in internet connectivity, and “tailor” the content to their learners, despite cultural differences, and the time, resources, and knowledge required to do so. However, in removing excessive costs associated with traditionally copyrighted content, other barriers, including technological, linguistic, and cultural mismatches, still exist to using OER in the way described above.
Lambert’s (2018) review of OER research literature since 2002-2018 analyzing how OER research aligns to social justice principles indicates that OER research contains assumptions about the potential of OER, but research studies do not attend to or support how to overcome these additional barriers. Her research focuses specifically on barriers to social justice, and others include social justice in a larger discussion of “social inclusion” (Arinto et al., 2017, p. 579). Arinto et al. (2017) suggested that for social inclusion to occur in the realm of OER research and practice, we must acknowledge a level of existing exclusion and the complex systems that impact OER use.

Researchers are learning more about the factors that complicate adoption of OER. Cox and Trotter (2017, p. 301) presented a framework that details several factors impacting adoption of OER in South Africa; they included factors varying in level of individual control (Figure 1). A person’s access to internet connection involves low levels of individual control in South Africa, where the decision of whether or not to adopt OER is finally a matter of personal volition.
Figure 1

OER Adoption Pyramid


This framework illustrates the varied factors affecting adoption of OER. This is significant because a discussion on the use of OER, which would also be part of the volitional point of the pyramid, must include discussion of these other associated aspects. Furthermore, it reflects complexity in the fact that volition in how one uses OER is affected by personal, social, and institutional factors.
What is clear is that the task of tailoring content to specific learners needs further research to understand how this is happening in context of these other factors. Furthermore, the implied directionality of the flow of education from the affluent countries of the world to less affluent countries of the world (King et al., 2018) does not account for how teachers will deal with decontextualized OER once they access the content. At this point, with our lack of understanding about localization practices, there is a risk that digital sharing of content “may not ameliorate but reinforce these inequalities” (Prinsloo & Roberts, 2022, para. 5).

Concrete knowledge of how individuals use OER in everyday practice in classrooms around the world represents a gap in the literature. “If OER is going to democratize learning and transform the classroom and teaching, then it must move from the periphery of education practice to center stage” (William and Flora Hewlett Foundation, 2013, p. 4). The key here is practice. How is OER being used by people who have traditionally been excluded? How do OER users address problems of content designed in other physical and cultural spaces far removed from their own learning context? The practice of OER localization—tailoring content to a specific context—needs to be center stage within the larger field of OER research as a first step.

Localization practices are enabled by permissions made possible through a Creative Commons license that allows users to Retain, Revise, Reuse, Remix, and Redistribute (Creative Commons, n.d.). Specifically, revising, remixing, and reusing all involve the adjustment of OER, and localization is a broad term that encompasses these practices with the purpose of tailoring content to specific places and people. The 5R permissions create affordances that are unique in potentially allowing for recontextualization. According to the OER Commons’ definition,

In the context of OER, localization refers to the process of taking educational resources developed for one context and adapting them for other contexts. These contexts can, for
example, be geographical, pedagogical, political, or technical. The practice of localization encompasses more than the translation of materials into a local language or swapping a photo to reflect a culture. Localization is at the heart of the OER process—it exemplifies diversity, openness, and reusability (Delich et al., 2012, para. 1).

In that definition, the practice of localization is the use of 5R permissions to contextualize content for learners in a variety of ways. International organizations discuss the importance of localization and create lists and models for how localization should be carried out (UNESCO 2017), though there is not a substantial body of research to support the UNESCO recommendations or how they would be carried out.

While such models may be useful to direct awareness to issues connected to localization and to encourage collaborative means for addressing challenges with OER, creating prescribed universal methods for the practice of localization glosses over idiosyncratic practices in favor of broad recommendations. Rather than looking for a universal notion of localization, this study seeks to understand localization as a practice that can vary from time to time and place to place. Dunne (1997) endorses the study of practice as an interactive, evolving experience rather than as ruled outcomes. Dunne (1999) also discusses phronesis, or practical wisdom, which “is not contained in a set of formulable promises which are then applied to, or from which conclusions are derived in, particular situations. It lies rather in an acquired resourcefulness whereby one can recurrently discern what is to be done . . . in each situation as one meets it” (p. 59). In line with Dunne’s (1999) ideas of practice, the localization of OER as it happens with practitioners is a process of employing “discriminating judgement” (p. 52) about how to fit OER created abroad to students in a specific location. For the current project, the OER content was a human rights manual designed for a global audience that was being piloted in Ghana. As part of
the team that designed the content, I represented the out-of-context designer, and the partners in the pilot project, course facilitators in Ghana, were the localizers.

**Statement of the Problem**

The major problem with using OER in Ghana is that most of it is not developed in Ghana. Currently, OER research and development is centered in more affluent countries in North America and Europe, centering on issues of cost-savings, student outcomes, use, and perception (COUP Framework, n.d.). While a body of research is developing to show both affordances and barriers to OER in these more affluent countries, those benefits and barriers are multiplied and redistributed in the less affluent countries of the world (de los Arcos & Weller, 2018). In other words, students in affluent countries benefit from access to low or no-cost OER, and students in less-affluent countries like Ghana would benefit even more from cost-savings. However, low bandwidth and lack of resources stifle the use and development of OER in less affluent countries (King et al., 2018). Even when learners can access OER, the flow of OER from North to South is problematic in creating tensions of ill fit. OER content that is de-contextualized from the learner may bear colonial undertones, language barriers, and cultural mismatches, to name a few of the significant pain points (Aramide & Elaturoti, 2021). In what follows, I hope to portray the global discussion on OER and OER localization, centering on these points of cultural intersection where teachers may grapple with how to take content from the Global North and tailor it to individual learners in their own learning contexts.

**Statement of the Purpose**

The purpose of this research is to add to the small body of literature on OER localization and to shed light on the idiosyncratic experiences of teachers engaged in localizing OER,
especially regarding circumstances where teachers inherit OER from cultural spaces far removed from learners.

This study will address the following research question:

1. Given OER originating from the U.S., what are the practices of teachers localizing OER in order to recontextualize it for learners in Ghana?
2. What affordances and barriers to localization do they face, and how do facilitators cope?
CHAPTER 2

Review of Literature

In this review of the literature, I explore research from around the world related to how people make use of OER, especially in how they discuss and practice localization. Though this review does not claim to be exhaustive, it seeks to be inclusive, and I have intentionally searched for references that represent different cultural perspectives and nation-states. After establishing a definition of OER in the literature, I will present the research on OER use or open educational practices in North America and Europe before moving to practices in the Global South. While there are research contributions in this area from all over the globe, there is a greater quantity of research on OER use coming from North American and Europe, and for the studies I reviewed, the focus points are different because the issues consumers of OER face differ based on geographical location. Furthermore, while the democratizing promise of OER asserts the free global sharing of educational content, research from the Global South highlights the tensions that exist in OER praxis, especially around localization. Cultural assumptions by content generators who may see OER as a potential solution to lack of education may not be supported by other cultural realities that limit how one uses OER.

Throughout the review, I use the terms Global North and Global South because these were the terms I found in current studies. While these terms do not group nations perfectly (Thelwell, 2020), it accurately describes the flow of OER from countries like the U.S. and Canada and from Europe to Ghana.

Defining OER

Creative Commons (n.d.) defines OER as “teaching, learning, and research materials that are either (a) in the public domain or (b) licensed in a manner that provides everyone with free
and perpetual permission to engage in the 5R activities” (para. 3). These include retaining, remixing, revising, reusing, and redistributing the resources. With these 5R permissions, OER are potential game-changers in allowing learners around the globe access to educational materials through the power of connectivity. Not only do learners have the possibility to obtain and share content freely (retain and redistribute), but OER allows learners to reuse, revise, and remix, potentially becoming creators and co-creators of content for their own communities. This dynamic use of content and the pedagogy surrounding such use has significant potential, through localization, to enable users to tailor content to specific places and peoples without copyright restrictions or traditional price walls. It is significant that this definition of OER comes from one area of the world.

**General OER Research in the Global North**

Up to this point, research in the field of OER has been largely centered in North America and Europe, mostly around cost-savings, efficacy of OER in student learning, and faculty perceptions of barriers to OER adoption (Open Education Group, n.d.). Textbook costs have skyrocketed in the U.S. over the past 20 years (DeAmelio-Rafferty, 2021), and students spend roughly $1,200 per semester for books (The College Board, 2019). Studies have shown that OER significantly brings down textbook costs for students (Hilton, 2016). In a multi-institutional study on OER adoption, several faculty members adopted OER for their courses, taking costs down to under $20 per course or less, and, of all students surveyed, 75% responded with only positive comments on the quality of the OER textbooks (Bliss et al., 2013). Furthermore, in terms of outcomes, a meta-analysis of OER research suggests that there is no difference in student performance on learning outcomes with using OER versus traditionally published textbooks; in fact, student drop-out rate is lower in classes that use OER (Clinton & Khan, 2019;
Delgado et al., 2019). Even with these advantages, there are articulated barriers to OER adoption, especially in terms of perception, including difficulty finding OER and lack of awareness of OER (Belikov & Bodily, 2016; Martin et al., 2017), as well as lack of institutional support for OER (Kimmons, 2016). Notwithstanding these barriers, one study of over 200 faculty members surveyed on their perceptions of OER, 73.9% expressed an interest in using OER. Taken as a whole, the research shows the positive impact of OER in the North America and Europe and identifies the shifting perceptions and benefits to adopting OER, even though widespread adoption of OER has not taken hold (Belikov & Bodily, 2016). However, though cost-savings may be the hook, DeRosa (2019) suggested that it is not a compelling “why.” She wrote, “That hook is going to puncture our foundational beliefs about the power of open” (DeRosa, 2019, p. 156). The more compelling why has to do with how we use OER to transform educational practices, as I will discuss in the next section.

**Research on Open Educational Practices**

The area of impact which has received the least amount of attention in the literature from North America and Europe is “use,” also known as open educational practices (OEP). Localization falls in this category, but researchers have not yet fully studied the detailed practices of revising, reusing, and remixing that contribute to localization. In fact, the discussion centers more on student use of the 5Rs in completing more creative assignments than on how a facilitator would encounter content and use the 5Rs to recontextualize it for her students. The following section will explore emerging definitions of OEP to set the stage for research on localization.

Definitions of OEP in the literature establish a continuum of OER engagement from simple use to limited use to more creative, collaborative use (Witt, 2020). In its broadest
definition, open educational practices refer to simple content substitution, including any activity that uses OER (Andrade et al., 2011). However, Wiley’s (2013) definition of the term “open-enabled pedagogy” more narrowly stated that open-enabled pedagogy includes any assignment that “is impossible without the permissions granted by open licenses” (para. 18). According to this definition, just using OER is not really open-enabled pedagogy; rather, inviting students to reuse, revise, and remix—especially in the creation of non-disposable assignments to be openly published and used—is open-enabled pedagogy. This definition was later expanded into “OER-enabled pedagogy” (Wiley & Hilton, 2018, para. 1). On the farthest creative end of the continuum lies the “renewable assignment,” which answers yes to all of these questions:“(1) Are students asked to create new artifacts (essays, poems, videos, songs, etc.) or revise / remix existing OER? (2) Does the new artifact have value beyond supporting the learning of its author? (3) Are students invited to publicly share their new artifacts or revised / remixed OER? (4) Are students invited to openly license their new artifacts or revised / remixed OER?” (Wiley & Hilton, 2018, p. 137). These questions act as a rubric for determining what is really classified as OER enabled pedagogy, establishing a more specifically articulated definition.

The problem with a more specific definition of OEP is that it may reflect a narrower set of needs by students in higher income countries and may include a set of assumptions about students, their technology access, and their language and literacy. To create a renewable artifact with a Creative Commons license requires a certain level of connectivity and bandwidth for uploading. On the other hand, a more general definition of OEP may allow for better description of practices that meet the needs of more diverse learners. A recent review of the literature on open-enabled pedagogy revealed that most publications on the topic gravitated toward the narrower Wiley and Hilton (2018) definition, including the 5R stipulations. Several articles exist
as case-study examples of this kind of OEP, detailing instantiations of OER-enabled pedagogy (DeRosa, 2016; Trust et al., 2022; Woodward et al., 2017) and providing evidence of an emerging field of practice in the use of OER. These include revisions of already-created OER by a class for future use (Woodward et al., 2017), development of wiki pages or other assignment examples. The study also demonstrated the positive perceptions of students, who reported favorable learning experiences yielding both gains in critical thinking skills and sense of accomplishment through open-enabled assignments (Clinton-Lisell, 2021). Still, the extent of practical use of OEP is difficult to measure because much of what happens in a classroom goes undocumented, but preliminary research indicates that despite transformative classroom possibilities, teachers who adopt OER do not necessarily use open enabled pedagogy at this point (Cronin, 2017). These studies are helpful for understanding the use of OER in the context of students in North America. However, whether outcomes like this are maintained cross-culturally as content travels from one part of the world to another is an open question. More research is needed to demonstrate further impact of OER enabled pedagogy in a wider variety of forms.

One way localization is addressed in the Global North is through the recent discussion on social justice. Including elements of social justice in the use of OER does not specifically focus on how content is localized in new contexts, but it looks at issues of otherness and how OER and OER research may or may not provide solutions. The ability to remix and revise allows instructors to use OER to ensure three types of social justice: “redistributive, recognitive, and representational” (Lambert, 2018, para. 1). In this review of literature, Lambert defined redistributive social justice as allocating educational resources to those without, recognitive social justice as respectfully recognizing gender and cultural differences, and representational social justice as allowing representation of disparate voices. However, a meta-analysis of OER
research since 2002 showed initially enthusiastic assertions of the potential of OER to allow for social justice, but little legitimate attention to social justice in subsequent research.

Lambert (2018) proposed a new definition of OER based on its specific use for promoting social justice:

Open Education is the development of free digitally enabled learning materials and experiences primarily by and for the benefit and empowerment of non-privileged learners who may be under-represented in education systems or marginalised in their global context. Success of social justice aligned programs can be measured not by any particular technical feature or format, but instead by the extent to which they enact redistributive justice, recognitive justice and/or representational justice. (p. 239)

While this definition is too new to measure its impact or general adoption, Lambert’s article has been cited 110 times since 2018 (as of August 2022). This discussion about sensitivity to different learners’ needs and realities is one way localization is discussed in research from the Global North. Furthermore, the idea that OER makes possible greater social inclusion is related to localization, for revising OER to be relevant to local places and peoples is a cousin to Lambert’s focus on revising for social justice.

**Perspectives on Use of OER From the Global South**

As I focus now on global OER research, it is significant to note that the divide between the Global North and the Global South multiplies the benefits of (and barriers to) OER adoption. The benefits of retain, reuse, revision, remix, and redistribution are felt keenly in the developing world, where the lockbox of education most needs unlocking. It is difficult to track benefits in the Global South because information on spending, adoption, and use is not readily available (Goodier, 2017; Toledo, 2017). However, the flow of OER from the Global North to the Global
South (King et al., 2018) creates tensions and problems of ill-suited content for learners. This is because OER from the Global North is decontextualized from the culture and language of learners in the Global South. One solution to this poor fit is tailoring, or localization.

Another complexity in discussion OER practices in the Global South is that individual practices exist in context of larger social and political pressures. In a review of OER practice and policy in South Africa, Prinsloo and Roberts (2022) illustrate the web of factors influencing OER use on a “micro, meso, and macro level,” including a worldwide pandemic (Figure 2).
Before looking at localization specifically, this broad map of contextual factors affecting use of OER in Africa is significant in creating a realistic context for a discussion on localization, for if the literature in this area focuses on one aspect or another, the broad picture here reflects how different factors of policy, educator understanding and awareness, institutional location, and broader international issues of networks, economy, and so forth, overlay one another.
Given these complexities affecting the use of OER in the Global South, I will first define localization based on definitions from researchers, participants, or both in the Global South. I will then look at the literature to give a broad view of research on OEP and some of the factors that influence OER use: access, creation, curation of OER content, design for localization, language, cultural contextualization, and, finally, pedagogy and localization.

Definitions of Localization

To begin broadly, UNESCO defines localization as “the process of defining parts or components of the curriculum at community/local or school level, normally with the involvement of local staff, stakeholders and institutions, so as to address issues that are locally relevant and allow for more meaningful learning experiences” (IBE-UNESCO, n.d., Glossary of Curriculum Terminology, “Localization of curriculum”). This definition favors localization rather than centralization. The definition of localization from OER Commons, as previously mentioned, includes “taking educational resources developed for one context and adapting them for other contexts” (Delich et al., 2012, para. 1).

I will define localization practice even more specifically, drawing from two sources that are unique in drawing their definition from research dealing specifically with the praxis of OER localizers in India and Nepal. The first source I draw from situates localization within a constructivist learning framework, suggesting that learners color their learning with their own worldviews and experiences, and localization refers to that colorful practice. Furthermore, localization is a process that evolves socially. "Thus, localisation is seen as a social practice in which the competence of those participating in the practice arises through a relational interdependence between the agency and contributions of both the individual and the collective"
(Wolfenden & Adinolfi, 2019, para. 4). The practice of localization and co-creation of content is a social interplay in which learning becomes relevant and content becomes colorful.

The second definition I draw from is based on a qualitative study of localization in Nepal, in which the researcher found that the definition of localization depended on whom you asked (Ivins, 2011). Analysis of knowledge workers revealed highly individualized definitions of localization which included sensitivity to resources, gender messaging, language abilities, religious values, geography, problem-solving, and both diversity and unity. Thus, the definition itself includes the possibility for individual localization. The study also emphasizes that localization should be done by locals.

The three essential parts of localization, then, are that it is a dynamic social practice, done by locals, and involves contextualization in a variety of ways. Thus, localization is the developing, relational practice of purposeful contextualization of OER by local teachers and learners with sensitivity to locally defined aspects of place and people.

Current research in the localization of OER goes beyond the promise of OER to provide education for all people, everywhere, scrutinizing several complex points that provide both a breakdown for OER localization and potential for localizing OER. How exactly does localization take place and what helps or gets in the way? Cox and Trotter (2017) studied adoption of OER in three universities in South Africa, and they identified several factors influencing the choice of whether or not to use OER. Their study is specifically about adoption of OER, but the choice of how to use OER once it is adopted exists in the same complex system. Some of the factors they identified as complicating use of OER are access, permission, awareness, capacity, availability, and volition. The next several sections will look at these influential factors, which I found represented in research in different ways. I will review research on access, awareness, creation,
curation of OER content, design for localization, language, cultural contextualization, and, finally, pedagogy.

**Access to OER.** Limited technological access is going to limit one’s ability to manipulate OER. The difference in internet infrastructure between North America and Ghana is such that low-bandwidth internet often precludes access to OER. “Internet user statistics in 2016 revealed penetration rates of 28.7% in Africa and 45.6% in Asia were below the world average of 50.1%, and well behind Europe (73.9%) and North America (89%)” (de los Arcos & Weller, 2018, p. 151). Since 2010, the laying of 400 submarine cables have improved internet penetration in Sub-Saharan African countries by 2–3% (Cariolle, 2021).

The South is also behind the North in people being able to access the internet, especially from home. Several researchers cite difficulties with connectivity, cost of data, limited bandwidth, and “epileptic power supply” as a challenge to accessing OER in developing countries (Omoike, 2021). To put this in perspective, a review of the state of internet in Africa reported this: “For those that can afford [internet], their costs are usually higher than for their counterparts in the developed world, and even Africa's most well-endowed centers of excellence have less bandwidth than a home broadband user in North America or Europe, and it must be shared amongst hundreds or even thousands of users” (Jensen, 2006, para. 1).

There is consensus in the literature that these limitations make the promise of “open education for all” difficult. This lack of connectivity leads to further problems when there is insufficient technical training or experience to use technology. This was one of the criticisms of the One Laptop Per Child program in Africa. Though schools in urban centers across Africa were gifted Magellan tablets for each child, in rural areas, teachers did not have expertise in using this kind of technology and one third of the classrooms did not use the technology (Ezumah, 2020).
In a meta-analysis of research on OER, Cobo (2013) noted the significant lack of research from non-English speakers and concluded that “. . . the lack of trained users (learners and educators) from non-English speaking countries with the required skills to effectively create and repurpose OER and the absence of technology infrastructures result in a deeper divide between those who can exploit the benefits of OER and those who cannot” (p. 122). The technology divide runs along old colonial lines.

These connectivity issues reinforce a “top down” structure in which people from the Global North are the producers of OER and those from the Global South are the consumers of OER, just by the fact that those with inadequate internet connectivity are not able to upload and share content. In reality, a study of over 7700 OER users from all over the world found that in terms of using OER for adaptation and remixing, teachers in the Global South were no different from their counterparts in the Global North in their interactions with OER (de los Arcos & Weller, 2018). In fact, it found that users in the South adapted content more frequently. The only difference was that any intention to share adaptation was not possible for those in the Global South due to internet limitations. Even the wording here is directional: contributors are uploaders, and all the rest are downloaders, reflecting a social flow of OER based on connectivity. This is significant in the research, since it shows that the top-down perception is not a true depiction of a North/South divide in terms of interaction with OER—just a significant disadvantage due to technological insufficiencies.

Despite significant challenges to accessing OER, there is evidence in the literature of interesting technological workarounds. For example, though the internet may be the best highway for sharing knowledge, when the highway is in disrepair, people take alternate routes. One case study showed that one such route is the use of mobile hotspot technology in Kenya and
Malawi, where RACHEL servers (Remote Access Community Hotspot for Education and Learning) are used to provide an offline version of the internet. OER content is uploaded to RACHELs at linking spots and then taken to remote locations where anyone within 200 feet can download OER onto personal devices (Hutton et al., 2021).

This may seem like a step backward when what is needed is clearly enhanced digital infrastructure and connectivity, but mobile hotspots have the potential to be the coronary bypass of educational circulation in low-bandwidth areas. Future research is needed to show the efficacy of these hotspot servers, but, theoretically, this less-connected option makes a case for the possibility of asynchronous learning through offline access to OER (Bjork, 2011).

Another potential innovation to connect people to OER is through open software. In another case study involving international collaborators presented at the Open Education Conference in 2021, developers of OER-U from the OER Foundation in New Zealand have not only designed content, but designed the software to be open-formatted, so that it may be hosted on a variety of platforms. They have also worked with interested groups from all over the world to develop a way to “accommodate translations of the interface for login and registering for courses” (Varoglu et al., 2021). Their collaborative work has resulted in building a system that supports courses in many languages. This project importantly highlights the barrier of accessing OER due to software or platform incompatibility with a workaround that is allowing tens of thousands of learners from the Global South to access courses. In this particular case study, Université Numérique in France adopted a course with open software and documented its localization, asserting that access alone did not solve the problem of contextualization, but once professors achieved access, localization could occur.
Awareness. One of the major blocks to local creation of OER in the Global South is lack of awareness. In a multiple case study including countries from the Global South as well as the Global North, researchers found “low awareness” was common across all seven university faculties surveyed (Marín et al., 2022, p. 21). In addition, they found that awareness or lack of policy for OER creation were also low. When awareness is low, it makes sense that creation would be low, as one cannot create that with which they are unfamiliar. In a study of three universities in South Africa, Cox and Trotter (2017, p. 310), found that all of the six participants were aware of OER at a larger university, while only one out of six and three out of six were aware of OER at the other universities. Researchers concluded that in higher education, familiarity with OER is possible in South Africa, though not a given, and lack of institutional support correlated with lack of awareness. Awareness was a major factor in faculty adoption of OER in this study, as breakdowns in the process before “volition” (Cox & Trotter, 2017, p. 320). More research is needed to explore awareness of OER in different educational contexts in the Global South.

Creation. In terms of creation of OER, the Research on Open Educational Resources 4 Development (ROER4D) project studied the adoption, use, and implementation of OER in the Global South. In one part of the study, de Oliveira Neto et al. (2017) found that 23% of instructors had created OER and a smaller percentage of students had created OER. Researchers indicated that while participation in creation of OER was not widespread, it was the second most frequent OER activity, behind using OER made by someone else as-is. These statistics paint a broad picture of creation of OER in higher education in the Global South.

Another ROER4D study by Hodgkinson-Williams et al. (2017) suggests that OER use is difficult in the Global South because of certain system “disjunctures” (p. 57):
(1) the dependence on copying of existing OER and the corollary reluctance to localise;
(2) in the adaptation of OER, inconsistent curation and rehosting of derivative works on a
publicly available platform or repository, which limits access to the derivative OER; (3)
limited circulation of derivative OER due, in part, to the absence of a specific
dissemination strategy; (4) inconsistent quality assurance processes; and (5) a weak
feedback loop for continuous improvement of original or derivative OER. (p. 57)

These points of breakdown limit full participation in OER use by educators in the Global South.
However, breakdown points were ameliorated by institutional assistance. “Support from
government, institutions and NGOs is pivotal within this context, as the ROER4D studies show
that quality assurance and ongoing development are more likely if OER creation is part of an
institutional or project initiative” (Hodgkinson-Williams et al., 2017, p. 62). At this point,
support for creation makes it more likely for users to add perspectives to the growing body of
OER.

Until two-way technology and widespread understanding of OER allow for the common
practice of local creation for users around the globe (Cobo, 2013), advocates recommend
collaboration, and this is seen in the recommendations from government agencies, NGOs, and
specific research on localization. In the development of localization praxis, collaboration is a
bridge between knowledge-workers. As of 2019, we see international recommendations for
localization:

[P]romoting and stimulating cross-border collaboration and alliances on OER projects
and programmes, leveraging existing transnational, regional and global collaboration
mechanisms and organizations. This should include joining efforts on collaborative
development and use of OER as well as capacity building, repositories, communities of
practice, joint research on OER and solidarity between all countries regardless of their state of OER development. (UNESCO, para. 33)

This type of network-driven adaptation of OER is much more in line with community cultural practices in many places, which counters colonial impact (Olivier, 2020), replacing it with locally directed collaboration, though more research is needed to show how this actually takes place.

**Curation.** If learners overcome access and technology problems, the next question is “who chooses which OER they need?” Because so much of OER comes from the Global North, the current state of affairs suggests that Europeans and Americans choose, though this is not ideal. In the United States, a recent publication by Velestianos (2021) pointed out that free OER may seemingly make education materials equitable, but inequity is perpetuated when OER originates only from dominant cultures or higher-income sources. When NGOs or well-meaning educationalists from Europe and North America create content for people with lower income in different places in the world, it creates an oppressive hierarchy between teacher/Savior and student/deficient. Although he was not writing about OER, Friere (1970) denounced the colonial banking model of education.

> We simply cannot go to the laborers—urban or peasant—in the banking style, to give them ‘knowledge’ or to impose upon them the model of the ‘good man’ contained in a program whose content we have ourselves organized. Many political and educational plans have failed because their authors designed them according to their own personal views of reality, never once taking into account (except as mere objects of their actions) the men-in-a-situation to whom their program was ostensibly designed. (p. 67)
When the decision for what educational resources reach the Global South has its locus of decision-making power in the Global North, the “sharing” of curated knowledge may be a form of forceful interaction. Researchers from Nigeria noted that one of the barriers to OER adoption is a distrust of possibly colonial content from the Global North.

Many developing countries have been colonized in the past and because the citizens of these developing countries knew what their forefathers went through and what they also are still going through because of residual colonialism, and so that lack of trust in whatever is coming from the Western developed world is there. Part of this is open education. They may believe that this is also part of the Colonial masters' scheme to keep them in bondage, and that is one of the major reasons why it has not been fully adopted. (Amiel, 2013, p. 138)

This locus of control in OER procurement is important in lieu of those old colonial lines, which really are not too old in some countries in the world. In a recent study of localization in Nepal, Raj et al. (2019) reference “hidden curriculum” and the way that education systems propagate controlled behavior in their citizenry based on subtle but oppressive teaching.

In contrast to the colonial approach, there were two principles related to content curation that came out of an evidentiary groundwork study on OER localization in Nepal: “Localization must involve locals. . . and effective localization is directly proportional to understanding local contexts” (Ivins, 2011, p. 198). These two premises specify that the decision about what OER is appropriate should be made by one who knows the context and is actually local.

At the level of curation, there are solid opportunities for content to be localized. The World Librarians project directors working out of Amherst, Massachusetts, have presented their efforts to support localized content curation in collaboration with the mobile hotspot project
mentioned previously (Hutton et al., 2021). Learners who are seeking specific content on the RACHELs can tweet requests to a group of World Library volunteer librarians who will search for the OER, send it to the learner’s server link-up station, and then check back to make sure it was useful. Sarah Hutton, a researcher with the World Librarians project (2021):

We are trying to provide offline teachers, librarians, and students with content that they want, NOT what we global northerners think that they want. As shown here in the ICT impact chain framework, we start with communities assessing their own needs in making that request. My focus is really on that point of contextualizing educational content and to ensure that any support provided by organizations in the global north and west is not framed by what we global northerners think is best. (27:25)

Further research is needed on the efficacy of this model of localized choice of OER, but it creates a collaboration with locals in the driver’s seat, overcoming barriers to technology and experience that get in the way of finding and curating OER, but maintaining locus of control with local people. Locals know what locals need.

**Design for Localization.** Having already shown the existing literature and the case for locally created and curated OER, a discussion of how to design for localization is a dissonant addition, yet the question taken up in research is, “What design practices make OER more or less localizable?” While more research is needed to firmly establish best practices, there are published examples of research and international agencies’ recommendations for design, which cast a stern, reproving eye on international educationalists.

The Learning Pass is a program created by Cambridge, UNICEF, and Microsoft for Education in Emergencies (EiE), content for learners who are refugees or migrant children (Fitzsimons et al., 2020). Rather than creating a universal curriculum that would be adopted
across diverse contexts, they created a blueprint curriculum for math, reading, and science with a recommended process for localization. They address the need for content to be contextualized for learners, even those just passing through, and they assert that the burden of contextualization should not rest on teachers. They published a broad set of principles based on research (Cambridge Assessment & University Press, 2020), as well as through expert consultation and review by 30 specialists (Fitzsimons et al., 2020, p. 13). These “Adaptation Guidelines” encourage the following when designing for localization:

1. Curriculum developers must take into account relevant curriculum and education policies as well as previous learning experiences.
2. Locally adapted curricula should be developed and delivered in the most appropriate language(s) of instruction, after thorough consideration of a variety of factors.
3. Content in locally adapted curricula should be framed so that it is culturally sensitive.
4. Indigenous knowledge should be included in the locally adapted curricula.
5. Locally adapted curricula should support learner well-being, inclusion, and success.

These principles assume the content is being designed on behalf of a group but asserts the importance of localization for vulnerable populations. The researchers stated that this is an in-house set of guiding principles for curriculum developers, but they assumed it had wider application than for just their project. Though these guidelines could be read as broad platitudes for localization, they could possibly help develop localization praxis and create space for localization in the very design of curriculum.

On the other hand, the “should” in each numbered recommendation raises the question of what is actually being done by groups to localize content. Dunne (1997) wrote generally of such a priori sets of guidelines, saying that they may be established, but “when, how, and in what
circumstances they are to be used—or having been tried, are to be amended or abandoned—can be decided not by Technique but only, on the spot” (p. 818). Thus, the well-meaning designer may design for localization, but not by rote. It is also worth mentioning here the main conclusion from Ivins (2011) “Only a local can localize” (p. 176).

Technical design may also be a barrier for OER localization, for inflexible content such as a pdf, a scan of handwritten content, or very heavy data files are not easily manipulated for change. Amiel (2013) suggests that “technical aspects of OERs will affect how ‘open’ they really are. Creators of OERs who wish to promote revising and remixing should ensure that OERs are designed in such a way that users will have access to editing tools, that the tools needed will not require a prohibitive level of expertise, and that the OERs are meaningfully editable and self-sourced” (p. 137–138). This is a restatement of Wiley’s ALMS analysis, which provides four questions for designers to use to analyze if their open content is really localizable: “1) Access to editing tools? 2) Level of expertise required to revise or remix? 3) Meaningfully editable? (4) Source-file access? Getting into the programming source code might be difficult for users” (Hilton et al., 2010, p. 41). Taking these technological affordances into account is part of design for localization. Another example of design for localization comes from a study in Australia, in which five Coursera MOOCs were to be culturally contextualized, which was more difficult for some of the courses than others, and designers provided discussion forums for learners to “relate content to a personal context” (King et al., 2018, p. 7). What is clear is that designing for localization involves intentional forethought and practice based on principles of openness.

There are a few articles that discuss the benefits of globalization over localization, specifically in terms of content design. There are only a handful of studies detailing localization practice, and, in one of these studies previously mentioned, even though the teachers in Nepal
had permission to localize, most of them did not because the parents wanted their children exposed to content beyond their local village for the sake of increased opportunity and because the teachers did not have time. The author suggests that in the debate between localization and globalization, there is a middle ground. “Local knowledge with global recognition and global knowledge with local relevancy would be the better resolution of global-local debate” (Raj et al., 2019, p. 164). This idea is developed in another article about de-Westernizing a journalism program, in which authors claim that de-Westernizing does not mean replacing Western content with non-Western content, but rather including and contrasting ideas from international perspectives (Breit et al., 2013).

In internationalizing, designers compare local with global. Similarly, Ezumah (2019) combines the term to make “glocalization” (para. 1), a hybridization in which a teacher included international and local voices alike in a journalism course which was being de-Westernized through a balance between Western and international stories. Although this study was not specifically related to OER, it relates to the practice of localization. This type of internationalization may make sense in some contexts or courses. However, it is important to beware that while internationalization of content may include many voices, it could further marginalize vulnerable populations that are not included and more firmly reinforce inequity. Whether or not an international approach to design would be localizable would depend on whether the design of the course invites localization after the fact through discussion or adaptation.

In “The Localization Paradox,” Wiley (2021) warns that individuals without knowledge of learning design may localize away from sound design without even knowing it: “The localization process may very well reduce the effectiveness of the resource rather than improve...
“it” (para. 8). This is a unique perspective that I include for that reason, though in the current discussion, where the decontextualized original content may be culturally inappropriate, the stakes are greater than just higher or lower quality. Wiley acknowledges a downside to OER localization that is no worse than the downside of poor design in the first place, encouraging designers to create the strongest possible product although it may be later diluted.

**Language.** One of the key points of breakdown and potential for OER has to do with language, and the research shows significantly more production of English OER and English OER research. A few studies map the research in terms of language of origin. In 2011, a meta-analysis of OER research revealed that the ratio of OER research in English to Spanish was 789 to 2, with 0 studies in Portuguese (Cobo, 2013). More recently, a review of OER research coming from Brazil related to language acquisition showed 25 studies from 2013–2020, which the author terms modest (Lima-Lopes & Biazi, 2022).

The differential in research on OER between the Global North and the Global South is reflective of the differentials in production of OER, and most OER is published in English (Rossini, 2010). “As long as educational materials continue to be based on a few (Western European) languages . . . the use and repurposing of OER remains limited to people who have had the privilege to learn one of those elite (foreign) languages. The production of OER in English, therefore, creates a barrier to guaranteeing the universal use or understanding of content” (Cobo, 2013, p. 110). This is another example of OER excludes non-English speakers. According to Aramide and Elaturoti’s (2021), in Nigeria, most of the available OER is in English. Users must have some amount of English training to use the content. In this context, translation is key to the use of OER, and translation as a revision activity, is one of the things made possible by open licensing. Amiel’s research (2013) shows that straight reuse of OER is
complicated by linguistic differences and translation (as a practice of revision) is where most energy is spent. Also, Amiel comments that it is significantly more difficult to find OER in Portuguese than in other languages, so the impact of language difference hinders both reading and finding OER. Furthermore, research points out that when technologies do not support multilingual interfaces, the remixing and creation of OER is limited for those in the Global South due to lack of linguistically flexible technological tools (West & Victor, 2011).

In 2012, UNESCO recommended that linguistic diversity in the production of OER “favour the production and use of OER in local languages and diverse cultural contexts to ensure their relevance and accessibility” (p. 2). More recently, the first two recommendations of the Second World OER Congress in Lubljana (UNESCO, 2017) deal with using local languages:

1. Empower educators and learners to develop gender-sensitive, culturally and linguistically relevant OER appropriate to local cultures and to create local language OER, particularly languages which are less used, under-resourced and endangered as well as indigenous languages, This would include ensuring that those involved are given the support and training needed;

2. Harness technologies that overcome language barriers. (p. 4)

Case study research indicates that the process of translation into local languages and creation of local OER and technology that enables multilingual use is happening. In 2016, the first OER initiative in Afghanistan was the development of a multilingual library. Project directors used English OER as one of their sources of content. For these sources, they relied on professional translators to translate the resources into Dari and Pashto, with some level accompanying cultural adaptation, as well. The two other sources of OER were from within the country in local languages. Researchers describe their localization praxis, which is focused
around using local language and technology that can accommodate multi-lingual use (Oates & Hashimi, 2016). More research is needed to understand the praxis of linguistic localization.

One dissenting argument against the use of mother tongue in localization comes from a study in Nepal in which researchers studied the perceptions of parents on localization practices. Parents thought it impractical to speak in their mother tongue because there were too many different dialects, and they wanted their children to be multilingual. In fact, in this study, parents wanted their children to rise above and beyond local practices (and languages) to be citizens of the global world (Raj et al., 2019). This study presents a possible pitfall to localization. Perhaps in an overzealousness to insist on localization, outsiders may be oppressively insisting on isolation from globalization. In this case, true localization occurs when local people have control over what and how they learn, even if it means using national languages rather than local.

**Cultural Contextualization.** In many accounts from the literature on localization, OER that travels from the North to the South may be awkward and culturally mismatched, even after linguistic translation occurs. Researchers suggest that the OER that is available in Nigeria is not adapted for local audiences (Aramide & Elaturoti, 2021). What has emerged from researchers in the Global South is the counter-effectiveness of decontextualized OER. Adeyeye and Mason (2020) report, “Another identified source of challenge for African Indigenous knowledge and practices is its continual shattering by foreign civilizations and influence through the mechanism of formal western education” (p. 30). On the other hand, Adeyeye and Mason propose OER as means for restoring African Indigenous Knowledge through the local creation of OER. A systematic review of research into the use of MOOCs and OER in the Global South identified an inflexibility and decontextualization related to wholesale adoption of OER materials, which may have this “shattering effect” on indigenous ways of knowing mentioned above, as well as
contributing to a sense of wariness in higher education to buy into “academic elitism” from the North (King et al., 2018, p. 7). The study also asserted the need for further research, beyond the few personal accounts of MOOC participation (Liyanagunawardena et al., 2013) to explore the lived experiences of MOOC participants and OER users in the Global South. Thus, OER without cultural adaptation will be de-contextualized and irrelevant. To retain OER or simply translate it is not true localization (Chowdhury et al., 2011). Gyimah-Brempong (2017) points out the importance of not just quality content, but “relevant” (p. 359) content, culturally matched to improve education for individuals.

The discussion from international sources trends towards including “cultural adaptation” or related terms in a list of admonitions for localization (UNESCO, 2012; UNESCO, 2017; UNESCO, 2019; Fitzsimmons et al., 2020). In fact, Olivier (2020) suggests adding a sixth R: “Recontextualize—the right to append, adapt or modify content to be relevant to a specific learning context while considering existing biases and hegemony of knowledge from the West and the Global North” (p. 23). The fact that he adds this to the generally accepted definition of OER moves closer to tying contextualization to customary practice which values diversity over hegemony. This is representative of text from research and international agencies that first cite linguistic adaptation and then cultural adaptation as necessary, intentional processes that need to be applied to OER. However, very few articles show examples of how this localization actually happens with OER as an embodied practice.

There are a handful of qualitative studies that exist which truly observe the practice of localization happening in local settings (Amiel, 2013; Chowdhury et al., 2011; Ivins, 2011; Oates & Hashimi, 2016; Raj et al., 2019; Wolfenden & Adinolfi, 2019). In Amiel’s (2013) study of how OER is reused, he submits that we should see localization as an automatic practice, because
anytime OER moves from the hands of one source to another, it is revised in the constructionist sense that a new user will recreate it and contextualize it without much thought, just by virtue of the novel use of OER. Moving further in the direction of localization as a practice, Wolfenden and Adinolfi (2019) discusses this type of cultural recontextualization: “Making educational materials culturally appropriate involves drawing on the lived contexts and practices of teachers, learners, families and communities within their textual content and through the activities in which they are deployed” (p. 330).

These authors suggest that recontextualization is a practice deeply embedded in relationships, an expertise that comes with practice. This situated practice of OER localization is consistent with qualitative studies that directly observe how localization takes place. Three Nepalese localizers from the Ivins (2011) study included comments about the importance of contextualization being done by locals and added the benefit of community ownership developing as part of a participatory practice, as well as increased classroom engagement (Laeen et al., 2019). Clearly, emerging research literature includes both lists of recommendations including the importance of cultural contextualization and exploration of the practice of why and how people experience this practice. However, more research is needed in this area to determine exactly how users localize content.

**OER-Enabled Pedagogy.** The final point at which localization may occur is in pedagogy. As discussed previously, the trend in Western OER research is to discuss how far teaching moves toward open-enabled pedagogy, and when pedagogy is mentioned specific to OER in a more global sense, in the research, it focuses on moving away from traditional teaching methods which are more teacher-centered toward self-directed or student-centered learning. This in an area ripe for future research (Clinton-Lisell, 2021), but initial studies show that use of OER
in developing countries does influence pedagogy toward a more student-centered (Gunness et al., 2021; Raj et al., 2019) and more interactive approach (Omoike, 2021). In a recent study of teachers in teacher education programs in Africa, new teachers using OER were more likely to use participatory techniques in their teaching. For them, “OER act as a practice tool in extending their agency to move towards more participatory pedagogy” (Wolfenden et al., 2017, p. 252). More research is needed to study how and why this is the case.

Wolfenden and Adinolfi (2019) indicate a conundrum when it comes to open enabled pedagogy using materials created out of context from the learner. “To engage authentically in the task, localisers need to be familiar with the pedagogic forms embedded in the OER. Without this, there is a danger that localisation remains superficial. Yet without localisation, OER can appear too unfamiliar for educators to risk experimenting within their practice” (p. 340). Therefore, the potential for shifting teaching practices exists with OER, and OER-enabled pedagogy may enhance localization. On the other hand, a teacher may not pick up un-localized OER because its pedagogy is unfamiliar. “New” pedagogy then becomes a block to shifts in pedagogy.

**Summary**

In the developing practice of OER localization, I have explored eight areas that emerge from the research as potential breaking points for OER localization: access, awareness, creation, curation, design, language, cultural contextualization, and pedagogy. From the Global North, there is a great deal more research that has been done on cost, outcomes, use, and perception, and studies highlight barriers to OER adoption. There is also research validating cost-savings, improved outcomes, new pedagogies, and changing perceptions. From around the world, various barriers and affordances exist in the literature, and the barriers are complicated by intense social and cultural issues. More research is needed to understand how OER is used in the Global South
and how facilitators choose to practice localization in light of the barriers and affordances they find in their individual contexts.

Specifically, until the ideal of widespread creation of OER from all corners of the globe is a reality and reliable access is available to users for equitable, bi-directional, peer-to-peer sharing, we need more extensive research into how OER created in one space is localized for another. A handful of studies have specifically looked at how localization happens with OER that originates far from the learner. A gap in the literature exists in understanding the processes of localization and what the hurdles and benefits might be for teachers and students alike who are engaged in the dynamic practice.
CHAPTER 3

Method

Theoretical Approach

In the field of OER, localization is talked about as a culturally responsive mandate (UNESCO, 2017), but it has not been looked at extensively as a practice from a research perspective. However, exploring how facilitators localize content for their learners fits the criteria for practice research. Schatzki et al. (2001) allows that a “practice approach [to research] can then be demarcated as all analyses that (1) develop an account of practices, either a field of practices or a subdomain thereof (e.g., science), or (2) treat the field of practices as the place to study the nature and transformation of their subjects” (p. 11). Generally, the research on learning a practice emphasizes an embodied, agentic view of learning, rather than a subject-object view of learning, and learning a practice happens in a community of people (Wilson, 2013). Within the field of OER, localization is a practice motivated by the desire to match openly licensed learning content with a learning community, and in this way, the study of localization fits within a practice approach.

In looking at localization practice, I also rely on Dunne’s (1997) discussion of practice with its complexities and sensitivities. He returns to Aristotle’s idea of phronesis, or practical wisdom, a knowledge that goes beyond content knowledge. Tacit knowledge is the type of judgment that connects a purpose to a specific meaningful action. From this standpoint, Dunne criticizes educational fads that recommend teachers use a one-size-fits-all approach because these methods replace the in-the-moment knowledge of phronesis (Dunne, 1999). As the previous review of the literature shows, various educationalists form lists and guidelines that approach models of localization, when the evidentiary research on how localization occurs in the
context of OER has not been widely established. Although such guidelines may prove helpful in creating a shared awareness of issues that should be considered in content design, a list of localization rules seeks to codify a dynamic, idiosyncratic process before the process is explored and which may not be formalizable. In a response to behavioral models of education that create technical models or guidelines, Dunne writes that “practical knowledge has been shown as a fruit which can grow only in the soil of a person’s experience and character; apart from the cultivation of this soil, there is no artifice for making it available in a way that would count” (1997, p. 796).

In other words, the practice of localization may be the fruit, but this research will investigate the soil and the growth of the plant—the practice of localization as it unfolds and bears fruit in an individual’s experience. From this theoretical perspective, the possible iterations of localization are varied and lively, and this research rejoices in the multiplicity of potential localization practices. From this vantage point, we understand localization best by digging into the practical experience of facilitators who, with OER in hand, localize the content. Their tacit, spontaneous knowledge, as drawn out through a process of reflection, is the key to understanding localization (Schön, 1983).

Such a process cannot be “strait-jacketed by technicist assumptions” (Dunne, 1997, p. 823), which exist in policy statements and teaching recommendations, or, on the other hand, a disregard for localization in the first place. Thus, in a research project that specifically seeks cultural understanding—delving into the experiences of facilitators in Ghana engaged in OER localization—any theoretical construct that approaches this project in terms of generalization or adoption of broad educational models might obscure the understanding of specific localization practices. Moreover, a de-contextualized design theory may also fail to recognize the cultural underpinnings of its own model and make wrongful assumptions about the rightness or fit of
what localization “should” entail. Therefore, designing research for localization fits under a more practice- and context-bound approach.

This qualitative research project approaches the practice of OER localization through an existential phenomenological approach. This study explores the essence of the experience of adjusting decontextualized content for students in Ghana. Based on a Heideggerian existential-phenomenological perspective, my goal was to uncover idiosyncratic ways in which participants approached the teaching moment and how they made decisions about localization. Employing a phenomenological hermeneutic cycle, I compared idiosyncrasies across participants to develop thick descriptions of the challenges and tensions participants faced. In this process, participants gave me instructions on viewing the experience of localization in the way they saw it. My research did not allow me to make claims about their state of mind, but their interviews enabled me to “see another way of being in the world and see our own way of being in a new way” (Packer, 2018, p. 396).

Methods

The goal of the research is to explore the lived experiences of facilitators in Ghana who use OER content created in the US and localize it for learners in Ghana. My research asks how this localization is done and what barriers and affordances are there to the practice of localization. In this section, I will describe the research design, including context and sampling, data collection, analysis, trustworthiness and rigor, and ethical considerations. For all of this, the project has received IRB approval from Brigham Young University (Appendix A) and a letter of approval from the University of Ghana stating that it meets standards for researching human subjects in Ghana (Appendix E). Participation was voluntary, and those who participated provide written and verbal consent.
**Research Design**

The research design for this project draws from Existential Phenomenological Research (EPR) and includes some elements of Interpretive Phenomenological Analysis (IPA). Some unique underpinnings of EPR include emphasis on existential freedom and how an individual defines himself through his choices within a set of circumstances. “In our free choice to realize ourselves in one way or another, we discover the meaning, the significance, the underlying ‘intent’ of our actions” (Churchill, 2022, p. 17). In EPR, the researcher seeks an embodied, empathetic understanding of participants’ experiences engaging in shared practices with other people. The researcher acknowledges her own subjectivity and personal experiences or “fore-having” (Churchill, 2022, p. 53) that come to bear in the interview and analysis process. As a content designer from the U.S. working with localizers of said content, EPR allowed me to acknowledge complicated roles, relationships, and some shared context in the project. It also allowed me to pull out larger units of meaning as I sought to maintain the context of the participant’s comments in the conversations we had. I also created “transformative reflections on psychological meaning” (Churchill, 2022, p. 48), looking at a collection of statements and asking, “What is this participant teaching me?” to develop themes. EPA honors individual experiences, and while these experiences may not be widely generalizable, they provide evidentiary understanding of what is really happening with OER in the hands of facilitators in Ghana. Most of the sampling and analysis procedures were drawn from the EPR methodology as described by Churchill and detailed in the discussion below.

However, there were some steps of analysis that were important to my getting a deeper sense of participants’ experience which EPR did not allow me to do well, and in these cases, I drew on Interpretive Phonological Analysis (IPA). IPA, created by Smith, Flowers, and Larken
is also a research methodology based on a phenomenological approach. It uses purposive sampling and analyzes a participant’s lived experience; however, it begins with very small bits of meaning compared with larger meaning units. The researcher is involved in a double hermeneutic circle “because the researcher is trying to make sense of the participant trying to make sense of what is happening to them” (Smith et al., 2009, p. 3). In IPA, the participant’s own interpretations are a lens through which the researcher accesses the experience, and the researcher’s search for meaning is its own experience. Where my method differed from EPR and used IPA methodology is noted that in the discussion below. Basically, I inserted a step of looking at small bits in comparison to larger meaning units as a tool to adjust the themes I found through EPR and make sure I was staying close to the participant’s own words and meanings.

**Procedural Context**

This research came about as the outgrowth of work with Community Development Network (CDN), an NGO connecting people in low-bandwidth areas of the globe with educational resources in youth-led “gathering centers.” One of the first courses piloted in these gathering centers was a human rights course entitled *Human Dignity* that I co-authored as part of an internship with CDN in cooperation with the Geneva Office for Human Rights Education. Each chapter focused on a different aspect of human rights, and facilitators could choose to teach all lessons or rotate teaching. Those who finished the course were certified by CDN as human rights youth ambassadors. In the summer of 2021, I traveled to Ghana to help implement the larger project, and, while there, I assisted in human rights workshops that introduced the program by teaching an initial lesson. Afterwards, participants were welcomed to continue the course, and a handful of individuals responded and volunteered. The courses were mostly held via zoom due to costs in time and travel. Volunteers generally took turns teaching with the other members of
the course. After they finished a pilot round of the course, the students went on to start other courses; the interviews took place at this stage. During the interviews, conversations about OER and the need for localization led me to invite participants to create their own localized manual. Three of them joined in this effort. Before they could make changes, I worked with other volunteers to recreate the content in an EdTechBooks platform for easy editing and distributing. At that point, students created their own localized manual based on the original that is privately published at this time.

**Sampling**

The participants of this study (Table 1) were purposefully selected as course facilitators at local community gathering centers in various cities in Kumasi, Accra, and Assin Foso, Ghana. I use the terms ‘facilitators’ and ‘teachers’ interchangeably because these subjects were all teachers, though they may also have organized classes and acted as facilitators in their teaching. The Human Rights OER they used was created in the U.S. for a global audience by a group of designers who had never been to Ghana; therefore, the experience that they detailed was that of adapting content to fit their local context. I met several of these new facilitators when I traveled to Ghana in Summer of 2021. Most of these were young adults, aged 18–30.
### Table 1

**Sample Demographics**

<table>
<thead>
<tr>
<th>Sample demographics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant</td>
<td>Facilitators at youth-led gathering centers in Ghana using OER</td>
</tr>
<tr>
<td>Gender</td>
<td>Both male and female</td>
</tr>
<tr>
<td>Region</td>
<td>Ghana, Accra, Kumasi, or Assin Foso where gathering centers are more established</td>
</tr>
<tr>
<td>Experience</td>
<td>Have taught in conjunction with gathering centers using OER. The OER was designed in North America. Facilitators have experience making teaching decisions about how to adjust the course to fit their students.</td>
</tr>
<tr>
<td>Age</td>
<td>Young single adults (this is broadly defined = 18+ not married)</td>
</tr>
</tbody>
</table>

Research participants were all teaching in conjunction with the gathering centers in some way, even if the courses they taught did not happen physically within the gathering centers (e.g., via Zoom). Even though participants came from a fairly homogenous sample, Table 2 shows how they each offered unique perspectives based on their different personalities and circumstances.
Table 2

**Participant Descriptions**

<table>
<thead>
<tr>
<th>Participant by Pseudonym</th>
<th>Background and interests</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beth</td>
<td>Works as a nurse during the day. Volunteers to teach the weekly course. Keeps the class lively and fun. Makes her own slide presentation each week to present the content.</td>
<td>Only teacher in the course of 30+</td>
</tr>
<tr>
<td>Kate</td>
<td>Working as a manager in a construction company and is a student at a local university. Enjoys writing and led the project to create a localized manual.</td>
<td>Teacher in a group of 8 with rotating teaching.</td>
</tr>
<tr>
<td>John</td>
<td>Student in applied technology. Taught several classes and formed his own class during the pilot. Enjoys lively debate.</td>
<td>Teacher in a group of 5 with rotating teaching</td>
</tr>
<tr>
<td>Randall</td>
<td>Joined John’s group and took turns facilitating. Not originally from Ghana but has lived there over 10 years.</td>
<td>Teacher in a group of 5 with rotating teaching</td>
</tr>
<tr>
<td>Rebecca</td>
<td>Master’s student at a local university. She started her own group after the pilot with youth in her hometown. She helped give feedback on the localized manual.</td>
<td>Teacher in a group of 8 with rotating teaching.</td>
</tr>
<tr>
<td>Tobias</td>
<td>Working toward university education. Learning to be a mechanic and teaching professional driving. Takes great pride in being a good teacher.</td>
<td>Teacher in a group of 8 with rotating teaching.</td>
</tr>
</tbody>
</table>

**Data Collection**

To document the lived experiences of those participating in localizing content, I interviewed 6 participants. I conducted two 45-minute interviews for each participant, except in two cases. In these, I conducted only one 45-minute interview, owing to participants’ time constraints. Questions focused on what changes facilitators made to OER content and what
further changes should be made. I also asked about the challenges and the benefits of using the OER, how they knew what their students needed, and how they adjusted content to fit their students. Finally, I asked about why they made certain choices and what their thought processes were. The interviews were semi-structured, to allow me to delve into novel areas based on participants’ responses. Due to the geographical separation between the participants and myself, interviews were done over Zoom and recorded for accuracy in transcription. I used the Zoom transcription feature for initial transcription, but I edited transcriptions for accuracy. A copy of the interview questions is included in Appendix B. After conduction the interviews, I transcribed them. In two cases in which I could not understand specific words or phrases owing to dialectical differences, I contacted participants via WhatsApp to ask for clarification. Internet connectivity was an issue, but all interviews were completed fully, despite interruptions. All recordings, transcripts, and notes taken were stored in a password protected google drive, de-identified, and kept confidential.

In addition to data from interviews, over the course of the interview period, some participants were involved in a project to localize the OER human rights manual. I asked permission to access this manual as an artifact of how content is localized. I have included example lessons from this manual (Appendix C), as well as corresponding lessons from the original OER manual (Appendix D).

Furthermore, because analysis is not an isolated process but a cumulative process from start to finish (Kvale, 1996), I kept field notes and memos of my own impressions all throughout the research process. I took notes in a field journal format which involved what steps I was taking in my research and what I was learning as I developed a theoretical construct and studied
research on OER and localization. I also took notes during interview analysis in a “memo” column, where I wrote my questions and insights.

**Data Analysis**

The EPR analysis provides three steps of analysis outlined by Churchill (2022) as follows: (a) “preliminary familiarization;” (b) “reading and reflecting,” pulling out units of meaning, and “transformative reflections”; and (c) “comprehensive synthesis” (pp. 48-49). This method also provides flexibility and maneuverability for researchers to stray from strict adherence to rules.

In step one, initial familiarization, I read interviews to get a sense of them as a whole and to begin to see manageable units of meaning. I made notes of impressions I had had throughout the process. I noted transitions and moments of intentionality that might later be identified as meaning units.

In step two, reading and reflecting, I reread the text of interviews and re-listened to each individual interview. One by one, I engaged in a deep reading of each interview. I made memos of my strongest impressions during and after the interview, and I recorded these to be aware of my impressions, as well as my own thoughts and biases. In creating some of these memos, I created succinct narrative-like structures to explain the meaning I got from different moments in the interviews. Then, I collected units of meaning based on how the participant talked about his or her experiences with localization. Some of these were short—sentences or phrases. For example, one participant detailed difficulties with technology, so one unit of meaning was, “Technical breaks in communication,” based on the participant’s statement, “People joining in and there will be some breaks in the communication because the network wasn’t stable.” Some required “treating whole paragraphs as meaning units, each of which remain[ed] a component of
the overall experience” (Churchill, 2022, p. 51). In contrast to other methods of phenomenological research, EPR allowed me to pull out larger units of meaning, including several sentences, forming narrative-like structures which preserved context and meaning.

In step three, comprehensive synthesis, I identified larger themes that grew from experiential statements. I grouped related experiential statements together and asked, “What is this person teaching me?” and captured this in my own words to form “individual structural descriptions” (Churchill, 2022, p. 62). For example, based on several themes surrounding technology, I wrote the statement, “Despite technological barriers, people push through to access content.” These concise statements came from the participant’s original words, but they were rewritten as my understanding of meaning.

I added an additional IPA step at this point to check that these individual structural descriptions that I had written in my own words matched the original intent of smaller meaning units. This is consistent with Fleming et al.’s (2003) notion of whole-part analysis. I went back to the original interview to do a line-by-line analysis to see if larger themes needed to be adjusted or nuanced to account for feelings or ideas that came out in the line-by-line analysis and revised them accordingly, adding a few new themes to reflect the shades of meaning. For instance, one new theme that came from this line-by-line analysis was, “Even with tech issue, Zoom is more convenient than dealing with travel time and cost.” Following this check, I gathered all the revised individual structural descriptions and searched for connections across these larger themes to create “general structural descriptions” (Churchill, 2022, p. 66).

Once I completed these steps, I moved to the next participant interview and repeated a similar process. Finally, I explored patterns across interviews to find overarching themes. This involved taking the table of general structural descriptions from each participant and comparing
themes across all participants, thereby attending to the idiosyncratic themes as well as the shared themes of localization in Ghana.

**Trustworthiness and Rigor**

To ensure trustworthiness and rigor, EPR suggests that all components of the research should fit together cohesively and relate to one another from the introduction to the conclusion. It also recommends a practice of epoch, or bracketing off, to identify assumptions held by the researcher. It allows for the reader to critically verify the coherence of the reported findings. In addition to using these measures, I have followed IPA’s guidelines for trustworthiness and rigor. IPA uses Yardley’s (2000) four principles, comprising “sensitivity to context; commitment and rigor; transparency and coherence; impact and importance” (p. 215). In this study, sensitivity to context began with the focus on individual experiences which were shared and understood. It established individuals as authorities on their own experience, creating credibility by relying on participants. The semi-structured nature of the interviews I used allowed for sensitivity and tailoring the exploration to the participant, as well as letting the participant lead the conversation, to some extent. Sensitivity to context also relates to the context of other research that has been done, and as a researcher, my thorough literature review creates that sensitivity to context.

To ensure commitment and rigor, I used purposive sampling, follow-through of the interview and analysis process, and quality insights based on the analysis that are supported with quotes from the interviews. For transparency, I kept notes of all interviews and interactions, as well as my own insights through the process. I created field notes to write post-interview summaries. In my write-up, I include a reasonably balanced representation of quotations from all participants’ responses, so that the insights I find from six interviewees do not rest solely on one or two. Analyzing themes across interviews also established a sense of transferability. Coherence
refers to the adequate synthesis of writing up the research, establishing a tie to established theory. A process of peer-checking from thesis committee members was in place to check for coherence and thorough analysis. The research explored importance and impact, meaning that it was not just a summary of experiences, but added to insight and understanding of a phenomenon. Finally, I used member-checking to ensure that participants’ intended communications are reflected in what I present. Following analysis, I sent participants a summary version of the analyzed transcript and asked, “Does this capture what you were saying? Would you like to add of the analysis. anything?” In this way, the participants themselves provide a confirming audit

**Limitations**

Major limitations in this qualitative study include the small sample size of six participants. This does not allow for generalizability for larger samples. Typically, in qualitative research, this is not viewed as a deficiency for these reasons, but it should be recognized that the claims below are not meant to be generalized into laws. Also, my own positionality as an individual far removed from the culture of participants in Ghana limited my understanding. As analysis depends on some level of insight and empathy from the researcher, my lack of context could make me insensitive to meaning. However, this positionality also allowed for unique intersection of worlds between designer and teachers, and my experience traveling to Ghana and interacting with participants also helped alleviate some contextual misunderstandings. Still, there were, of course, assumptions and limitations that came about as part of my own partial understanding of participants’ culture and experience. I sought to mitigate through questions, follow-up interviews, member-checking, and acknowledgement of my positionality.
Ethical Considerations

In any project involving human subjects, there are ethical considerations, and as my study involved people who may live near poverty levels, I was careful to adhere to standards for research both in the US and in Ghana. This project was approved by the Institutional Review Board at Brigham Young University. Although there was no systematic review in Ghana, I reviewed my research designs with and procured a letter of approval from the Dean of Distance Education at the University of Ghana, Dr. Olivia Kwapong. She acknowledged that the standards I have adhered to meet the requirements for researching human subjects in Ghana. These standards include measures I will take to keep data confidential and de-identified, storing interviews and transcripts in a secure, password-protected drive. Also, all subjects participated through processes of informed consent, and they were informed they could end their participation at any point. Because I was traveling to Ghana in May 2021, I completed the IRB process and received approval. I obtained renewed approval in June 2022.
CHAPTER 4

Results

This study explored the practice of localization of OER by facilitators in Ghana using content developed far from Ghana and intended for a global audience. It sought to understand the lived experiences of facilitators and how they encountered content developed in another place and how they localized it for their learners. Their practices were situated within a broader context of factors influencing their practical decisions on localization; therefore, I will first report on how facilitators encountered OER and experienced the tensions that came as a result of using decontextualized OER (Figure 3). Besides offering context, these experiences revealed why they were motivated to adjust content or why they made decisions they made about localization.

Figure 3

Encountering Decontextualized Content

<table>
<thead>
<tr>
<th>Outline of Themes: Why Participants Felt Localization was Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Feelings of ill fit</td>
</tr>
<tr>
<td>2. Without education, the content might not be relatable</td>
</tr>
<tr>
<td>3. Content was a mismatch in terms of language and culture</td>
</tr>
<tr>
<td>4. Decontextualized content negatively imposed on local culture</td>
</tr>
<tr>
<td>5. Pictures or activities were not representative of their locality</td>
</tr>
<tr>
<td>6. Participants were hopeful that localization would solve some of the problems above.</td>
</tr>
</tbody>
</table>

Next, I examined different practices participants used to localize content according to two broad categories that arose from interviews: formal and informal localization (Figure 4). Within
these categories, I detailed the decisions participants made about how to localize for cultural context, language, and technology. The stories I include detail challenges and affordances that motivated localization practices. The emerging themes are outlined as follows:

**Figure 4**

*Informal and Formal Localization Themes*

<table>
<thead>
<tr>
<th>A. Informal Localization: Spontaneous adjustments facilitators made in the moment of teaching.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Spontaneous adjustments happen in the moment of teaching.</td>
</tr>
<tr>
<td>2. Discussion was the means for adding “local spice.”</td>
</tr>
<tr>
<td>3. Localization is driven by relationships.</td>
</tr>
<tr>
<td>4. Teacher experience personal moments of creativity and inspiration in tailoring the course to their students.</td>
</tr>
<tr>
<td>5. Language localization happens spontaneously and naturally.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Formal Localization: Purposefully planned localization which may result in a new artifact, published or not, after the planning.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. OER is not a familiar concept</td>
</tr>
<tr>
<td>2. Not everyone wants to be an editor.</td>
</tr>
<tr>
<td>3. Localizing a manual is a heavy process that includes research, collaboration, and tech skills.</td>
</tr>
<tr>
<td>4. Retain the core of what you are teaching but localize the “how.”</td>
</tr>
<tr>
<td>5. The teacher is the best bridge between the student and the content.</td>
</tr>
</tbody>
</table>

I will give detailed examples of each of these themes in subsequent sections.

**Encountering Decontextualized Content**

This section describes facilitator’s encounters with decontextualized OER in order to reflect part of the decision-making process in localization: did the content need to be localized? What part needed localization? To review the background of this research, participants from
different regions of Ghana were part of a pilot project to teach human rights through content
developed by a team in the U.S.

Though participants accepted the OER human rights manual, at least enough to teach from it, most said it was “fine, but…,” adding a caveat to their acceptance. For instance, Beth said the manual was “very relatable,” but she also detailed the ways that each week, she would recreate new PowerPoints to tailor the class to her learners. Randall indicated that he “only brought one picture from the outside. Most were from the manual,” but then he also expressed misgivings about teaching the contents in Africa: “The only concern was what I have spoken about previously. About making it feel local. Making it, should I say, available.” He implied that without localization, the content was somehow less accessible to students because they did not understand decontextualized content. To focus on some of the specific pain points, participants mentioned a general “feeling” of ill-fit, sometimes related to language or education background, navigating cultural tension between global and local, lack of representation in photos or activities, and problems with network connectivity. Participants also noted potential for this OER human rights content to be available and adequate, and even for content to be a possible solution.

**Feelings of Ill-Fit: Language, Education, and Culture**

Participants expressed a “feeling” of ill fit that created internal conflict in the learners. Randall stated, “Because in some part I could read, I feel it is American. You understand? This is an American culture altogether. This doesn't relate to me.” This identifiable feeling of cultural mismatch in the content was related to several contributing factors that participants mentioned, including language and education and technology.
**Language.** For language, the manuals were written in English, the official language of Ghana, but the specific use of words proved difficult. Rebecca told me, “Something like ‘promote’ and ‘dignity,’ they were having trouble with that one . . . They were basic, basic words that they couldn’t really pronounce,” and she indicated that the difficulty extended beyond pronunciation to comprehension: “They don’t even understand it.” If the language was unfamiliar, the content was not useful without adjustment.

**Education.** In terms of education, if a person did not have experience outside Ghana or knowledge of the world through education or travel, the content did not engage learners because it was outside their realm of experience. Randall stated, “If you have an advanced background, there are things you are going to read and relate to because of probably a few opportunities they have to go here and there and maybe learn from people.” He specifically used words like “advanced background,” “seen abroad in France or America,” or “advanced educational background” to demonstrate how exposure to the foreign-made content created hierarchical distinctions between typical learners in Ghana and the source of the content. “Regardless of who is advanced or who is not advanced, we don’t see things the same way.” These feelings of division between advanced or less advanced people stemmed from the decontextualized content. The interview itself was a unique opportunity for Randall to speak directly to a designer and emphasize the fundamental differences between learners and designers that learners feel acutely and to which designers may remain oblivious. According to Randall, designers who are not from Africa may make assumptions about people’s basic knowledge background. “A few things, not everything, but a few things that's in there wouldn't be understood by someone who hadn't been to school.” Content that was not geared toward learners’ knowledge backgrounds felt unsuitable for his students.
**Culture.** Facilitators were navigating tensions between teaching seemingly global principles and teaching them in local ways, and these feelings, brought about in the midst of localization practice, give insight into the decisions behind what to localize and what not to localize. Participants expressed the dissonance resulting from standing between two worlds in the process of localization. Randall stated, “We are brought up in a lot of traditions. These things you don't go to school and study because you look around and see, 'This is it.' In our land, this is how we do things.” Randall gravitated toward favoring local ways of knowing, but he also wanted to know his rights “so in case there is something I see is not right, I have at least a stand to locate whatever is not right.” Beth also felt a sense of loss in encountering ideas about human rights: “That we are entitled to all these things, yet we were barely reaching up to them. And that is very sad.”

In her statement, Beth specifically talked about how culture and rights came in conflict with one another, and she felt a sense of loss at not quite having the human rights she was learning about. This dissonance puts facilitators in an uncomfortable space for making decisions about localization, and it makes sense that the tensions may result in contradictory statements. Rebecca had an experience with the class on freedom of religion in which she was grappling with these kinds of tensions in front of the class as she tried to calm them down. She asked, “Am I going to be biased, or I just have to tell them the truth with the program we are studying or the course that we are treating? I just had to go according to the program we were having.” In this case, being biased would mean favoring her own personal religion and teaching that it was the true religion, while going with the truth of the program meant favoring the human rights content and teaching respect for all beliefs. She felt multiple feelings in the conflict between her strong feelings for her religions and the program’s teachings about respecting all religious beliefs. Her
decision was one of surrendering to the greater of two strong forces: “I just had to go according
to the program.” In another instance, she might feel like she had to be true to her personal
viewpoint.

Furthermore, Randall went so far as to describe how decontextualized content negatively
imposed on local culture. While making decisions about what to teach, his encounter left him
feeling a sense of loss: “I kind of feel like Africanism is kind of taken away from the content. It's
not relating to a common, normal African person.” In this instance, Randall responded to the
human rights content that conflicted with African norms. For example, freedom of expression
conflicted with cultural norms of not speaking against your elders. Randall was suggesting here
that such a cultural mismatch was destructive to his sense of self.

Although this was the most dramatic statement about foreign content imposing on local
identity, participants mentioned examples of similar forms of imposition at work. I will address
language localization later, but it is significant to note John’s comment that the country’s
emphasis on speaking English had caused a decline in native language literacy. Also, when
Rebecca’s learners stated that the content “wasn’t meant for us,” the students were implying an
“us” vs. “them” mentality resulting from foreign manual, imposing a feeling of otherness on the
students.

In contrast, Joshua suggested there is value in seeing beyond their current context. He
proposed letting rural students visit schools in the city to let the contrast between local and global
expose students to a broader experience:

If you come to the capital, we have great schools. We have international schools . . . that
will inspire these kids. They are going to be inspired to get to school and get to better
schools and putting in the effort to get high grades . . . if not for all, but you have a few of them doing it, it is going to transform their mindset.

Though he admitted that it would not be inspiring for everyone (and might be defeating for some), John gave an impassioned plea not to pretend that the local is always the ideal: “That is pure dishonesty.” However, to insist that global ways of knowing are always ideal has historically been destructive to whole civilizations and neglects “the rich experiences” and knowledge of the local learners and facilitators. In this study, individuals made decisions on how to navigate these tensions between global and local knowledge and how to localize were individually. John remarked on the fact that the course had both “structure” and “flexibility,” with its structured principles and flexibility to localize and space for facilitators to experience this friction, which maybe lead to growth, feelings of loss for others, or a combination of the two.

**Representation**

Other moments in which participants sensed discomfort with the manual dealt with the pictures or activities in the manual that were not representative of learners or familiar to them. One participant recalled students asking, “Why are the pictures only white people?” (Rebecca) As I was involved in the design of the manual, I knew there were no pictures of white people in the manual, so I asked a follow-up question about what she meant by that. Her response was, “Not really white people, but they didn’t see Ghanaians inside. Like this picture wasn’t taken in Ghana.” As a designer, I had found pictures from Africa, but I didn’t have the sensitivity to know that those African pictures were not Ghanaian, nor did I anticipate how Ghanaians would identify with or not identify with other Africans, but the students felt the mismatch.
John commented on a picture of a child, suggesting that in a class that was not geared toward children, the picture did not have impact as a discussion trigger because it was not relatable enough: “It is not really connected to people my age.” In this example, again, feelings of otherness resulted from exposure to content created out of context. The differences he felt had to do with age-appropriateness rather than cultural appropriateness, in this case, but the interesting part was how John suggested that such a mismatch resulted in less effective learning, from his perspective: “If we have such an illustration among adults, it is not going to have impact.” None of the other facilitators commented on the picture of the child being irrelevant, and it is important to note that while facilitators differed on which pictures were out of place, these negative reactions to visual representation were a pain point in encountering OER.

**Technology**

The last pain point in encountering OER developed far from Ghana was problems with technology. All but one of the facilitators participated in an online Zoom class, but technology issues proved frustrating throughout the experience. Tobias shared, “Zoom was not working . . . I am trying to connect and connect and connect and connect [to the internet]. I was like, forget about Zoom, so I thought I would send you a WhatsApp link. So here we are.” His words portray the recurring difficulties of trying to connect, and the workarounds that facilitators employ. Rebecca’s experience was similarly riddled with technological problems. “Internet connection at this part of our area is really poor. Some people live in very rural areas. In those places there are no internet connections. Even if you have, it is very low.” Rebecca’s description shows how the tech problems were related to “our area” and “this side of the country,” and were a part of explaining her experience and even her identity. She used the word “poor” multiple times.
Potential Usefulness of Decontextualized and Localized Content

The pain points just presented manifested within content that participants acknowledged was generally fine. This doesn’t diminish the impact of their experience of using decontextualized content in any way, but participants also experienced moments of connection with human rights content that transcended culture. In other words, in encountering OER, participants found potential for OER created far from them to be useful. According to Randall, “It’s human, kind of. Everyone has the right to live and be free.” Randall connected to the human rights content on a general human level. Similarly, John used an example of content that felt relatable. The lesson on freedom showed a picture of a bird in a cage. “You see the bird in the cage. That one is transcendent across ages of every kind of group. It doesn’t matter if you are an adult or kid.” These positive examples demonstrate the complexity of the experience of working with OER developed out of context in creating positive moments of connecting on a human basis and negative moments of feeling excluded or different from other sectors of humanity as a result of the interaction.

Participants further expressed hopefulness about localization being a solution to some of the pain points with technology, language, and culture. Kate explained the practical usefulness of something that is localized: “Something within the surrounding you can relate with, be it a behavior, be it an attitude, be it a belief. Something you would see and understand because you have experienced it and you can relate with it.” She created a clear link between local context and understanding. This link was echoed by Randall, who said, “When it connects with what we see around it will become more of a tradition.” His use of “tradition” in this example suggests a depth of learning that becomes central to the learner when connected to local knowledge. In
terms of the need for localization, participants experienced the discomfort associated with
decontextualized content and the hope that recontextualization could help.

To conclude, this discussion of how participants encountered OER created far from
Ghana and what some of the pain points were gives insights into what motivated participants to
localize content. It also provides background for decisions participants made in what and how to
localize.

**Localizing Content**

Given the pain points participants experienced when using OER that was developed far
from the learners’ experience, participants localized the content to fit the needs of their learners.
This section details their experiences tailoring the content. They never mentioned OER, open
licenses, or the 5Rs throughout the interviews, but they gave examples of how they interacted
with OER, though the common practices didn’t align exactly with OER licensing practices.

There were two main categories for localization practice: informal and formal. Informal
localization is a term I am using to describe the spontaneous adjustments that were made by
facilitators in the moment of teaching, and formal localization includes planned adjustments that
may result in a new artifact.

**Informal Localization**

Informal localization was driven by teachers’ tacit knowledge of what would work, as
well as by relationships they had with their students. The themes that emerged under informal
localization were (a) spontaneous adjustments happen in the moment of teaching, (b) discussion
was the means for adding “local spice,” (c) localization is driven by relationships, (d) teachers
experience personal moments of creativity and inspiration in tailoring the course to their
students, and (e) language localization happens spontaneously and naturally. Although these
themes describe any classroom, they are significant results to report in this study because this is how participants describe their practice of localization and reflects what truly happened with OER in Ghana.

**Spontaneous Adjustments Occurred in the Moment of Teaching.** Several facilitators commented on the fact that localization of content happened without thought or preparation. “Preparation is important. However, there are still things that are going to happen in the moment. If you pay a lot of attention and catch clues, there will be things that make it better” (John). For instance, John told the story of one class in which there were refreshments for after the class, and there were more than enough. While the lesson from the OER manual was on “equality” and had a picture of a child being left out for being different, John saw an opportunity to create a relevant activity with the refreshments and told the class that the extra refreshments would go to the oldest members of the class:

> It was spontaneous . . . . We were talking about equality. With the extra, what is going to happen? Even it isn’t going to be sufficient. What are we going to use to determine who gets the surplus? Suddenly I thought, “we can make something out of this.” I took advantage of that . . . You had those who felt like they were not treated equally vented out their feeling, “Why? No! You can’t.” . . . Even though it was a discussion, we were able to witness real-life feelings and concerns and displeasure of inequality.

John’s example shows a major adjustment from what was in the manual based on the relevant context that happened in the natural, spontaneous flow of the course. He used the term “natural” and “real life” to describe the reactions of the class, suggesting this natural learning emerges organically in a specific place and context.
Rebecca told about a class on freedom of religion where spontaneous localization grew out of a tricky emotional context. Some of the class members, who came from a variety of religious backgrounds, had been arguing during the class about which religion was true and had been upset. Rebecca adjusted the original activity in the manual—sing a hymn—to include several common hymns not from the dominant religion. “About religion, we used some of our locally made Christian songs. That was what we sang. That brought some people relief, too. They realized that though we are from different sects of religions, but when it comes to these things, we are all involved in it.” In making this decision, Rebecca responded intuitively and inclusively to the students.

In a lesson on the right to be free, Beth pivoted in the lesson and switched a song for one that her students would enjoy dancing to. In her situation, the original activity was to use a song about rights, but Beth made an adjustment that she knew her students would appreciate. “I got a song that talks about rights. I got them to listen to it, but for the activity, I used the song they would like to get them to dance. I had to improvise.” A fun, memorable learning experience grew out of Beth’s spontaneous decision based on tacit knowledge of what will engage the class. In all these descriptions, the facilitators did not have a process for localization or advice on how to localize, nor did they have a written plan or record, but they created memorable learning experiences local to the class environment and student needs, demonstrating the spontaneity of informal localization.

Discussion was the Means for Naturally Adding Local “Spice.” The OER human rights manual the facilitators used was a discussion-based curriculum, which was therefore “open” in structure and allowed for individual contributions, a central part of the experience of localization. The human rights lessons were designed to invite relevant discussion. Each one
started with a discussion trigger like a picture or activity or video and led students through a series of questions, allowing them to share their own experiences related to the specific right they were studying. “I don’t think we changed anything. But we made our examples that we gave become more local. We used more relatable stories when we had a class. We used relatable stories that have been in our everyday lives. We asked relatable questions” (Kate). The personal stories added through discussion added local color. “I really like it when the class is describing pictures because they come up with things you didn’t even think of. It spices the class up” (Beth). In these examples, the content wasn’t changed, but having discussion around the content was localized through dialogue because of the discussion format. As Tobias said of a class discussion about personal heroes that had been localized via the act of discussion, “Even though it’s not written, not documented, you have.”

In another example where the image in the manual did not represent a student’s experience, the content became relevant to the learners through discussion:

We were talking about education . . . There was a picture of a child watching a computer. She said growing up she didn’t have things like that. There weren’t so many computers. When she grew up, she came to appreciate education, and she came to realize that education was not just formal education. Learning things. Learning hand jobs. Learning how to be with people. Learning how to communicate with people. (Kate)

Though the picture did not relate to the student’s experience growing up without computers, the discussion elicited the real experience and meaning in that student’s life, which was a broader interpretation than the picture of a child with a computer. In each of these examples, the cultural relevance was supplied by the students, not the lesson, though the lesson provided space for the sharing of individual perspectives through a discussion format.
Randall gave an example in which his desire to stimulate a good discussion motivated him to adjust the lesson and include a different picture. The new picture was one of a street person begging for money. “The reason why I brought the picture to know what people think about this kind of thing and how they are getting exposed to it. When they are getting into this situation, would they feel they need to help those who didn't work?” He felt that students would relate more to that picture since they often see people asking for money. He took the core concept of “equality” and made how he taught it more applicable to his students’ experience. In this case, he indicated that the picture he found was not from Ghana, but he felt that it was familiar to his students, it was local. Even though the image wasn’t from Ghana, begging was a common occurrence that was locally understood. Anticipating discussion motivated Randall to localize the lesson.

Participants acknowledged that discussions were one of the affordances of localization. They were key to the richness of the course, even though they were fraught with disagreements. The significance of the discussion experience was apparent in the use of words like “mind-opening” (Kate) and “my best class” (Rebecca). The opportunity to hear opinions from different classmates was the source of deep learning. “Those kinds of experiences made the meetings very rich . . . made it more enlightening. I came to the realization, “Oh wow. This is something we should talk about. This is something that is affecting our lives” (John). Again, personal examples and meanings were spontaneously created by individual group members engaged in discussion. Randall recalled:

We had a long debate that day, and we came to an agreement, and we agreed to disagree. That’s how it was. It was awesome having to get to know things from the local region Ghanaians. Sometimes when you just go out there and no one tells you about it, and you
get into misunderstanding before you really know what’s going on. It was interesting to go through those debates.

Over the duration of the course, the differences of opinions had the effect of creating tolerance for different beliefs. “I wouldn’t have done in the first place. I think I can now tolerate the views of others more than I used to. It was a process after 13 weeks of class listening to people with differing opinions, I have learned to understand . . . the fact that the opinions they are sharing are different doesn’t mean they are wrong” (Kate). Beth had a similar experience: “The human dignity class is mostly about people expressing themselves. It’s funny how people see things so differently. And I get to hear their points of view, and even if it is not relatable to what we are saying, it is just a big deal for me because you always learn something from what someone tells you.”

**Localization was Driven by Relationships.** For in-the-moment localization, facilitators were motivated by their knowledge of their students and the relationships they had with them. The decisions they made were person-centered, not content centered. In other words, decisions about how to adjust content were based on how to make students feel respected or how to help them understand, not on a responsibility to cover a certain amount of content, and it was important for facilitators to know their students well in order to localize. For instance, Tobias suggested, “You have to know the kind of people you are addressing at that moment.” For Randall, this meant knowing about them so he could tailor the content to his students. He recommended that facilitators should “know the people you are going to teach. Know their surroundings, whatever they are surrounded with, why, and relate the content to what they have will make an impact that will be meaningful to them, rather than making reference to things they can only just imagine.” This type of knowledge came from being in a shared context and
knowing the environment the students were in. Tobias talked about the benefit of being in an actual classroom space to prepare for teaching: “I am able to be in the setting where the event is going to take place, it really makes it add more spice because I am already at the location where I am going to act.” He felt the connection to the context made him a more capable teacher.

John took this further in not only knowing the context of his students, but also respectfully seeing his students as he sees himself. That relationship was the impetus for inviting participation and making decisions that changed the course to suit his learners.

The moment I see you, I see you as me. . . My main goal is to focus on everyone there and to bring out what they know because they all have something. Because I have thoughts and experiences, I feel that everybody does.

Localization here involved “bringing out what they know,” and John’s sense of inclusion was based on a relationship between the self and the other—seeing the other as the self. The alternative John described is to focus on content and just facilitate the course, but that approach neglects finding “the rich experiences that each person has had.” His advice to other facilitators was to “focus on people the people and less on content.” The ability of a facilitator to see his students as himself led to greater localization of the lesson as students were invited to contribute.

Many of Tobias’ comments revealed a similar foundational relationship with students motivating his teaching practice. He prefaced examples of localization with phrases like “If you love them . . .” and “If you care . . . .” Those were the conditions on which localization was predicated. In one instance, this caring relationship presented a challenge when he was frustrated with students for joining the class late. He recalled, “Because we are there for the people, so it is hard to say, ‘You are late.’ And you can’t lock the door for them to be behind for you to finish . . . . I developed a strategy of letting those who are there from the start answer questions for those
who came late” (Tobias). He let the other class members teach the latecomers, and this decision, based on a desire to maintain a respectful relationship, allowed latecomers to enter more gracefully and class members to review content and not be bored while others caught up. John mentioned, “As they learn from each other, respect and relationships grow.” This relationship aspect, then, was central to the decisions made about how to localize the class, and represented a changing, growing dynamic force driving localization.

**Moments of Creativity and Inspiration.** One aspect of the experience that several teachers mentioned as a side note was their experience having sudden inspiration for their classes. I have already mentioned John’s experience using unequal distribution of the refreshments as the basis for a discussion on equality. “Suddenly I thought, ‘We can make something out of this.’” Rebecca described her experience getting inspiration: “We get new ideas as we go through the manual. New ideas come. New thoughts come. New ways come to our minds on how we can best help people to understand these things that we are training them with so that it will be part of our lives forever and ever.” In this statement, she connected moments of creativity with deep learning that stays with the students and be “part of our lives forever.” As teachers interacted with the manual, their personal creativity was the filter for how each class unfolded.

**Language Localization Happened Spontaneously in Response to Student Needs.** One of the main ways the content was revised in the class was through translation; however, translation occurred informally in conversation, as facilitators navigated the practical need for students to speak English as a common language but also to understand the concepts in their local language. While it seemed like much of the work of the class involved translation, it happened so seamlessly, none of the facilitators mentioned this aspect of localization until they
were specifically asked about it. When asked what language they used in class, Kate explained, “We mostly used English. We just used English because . . . there was no reason. We sometimes used Twi. English is our official language. When people really wanted to express themselves, they would use Twi. If they are explaining something and we are not getting it, they would switch the language and explain it in Twi.” This type of switching happened spontaneously and responsively. John cited the reason for using English as, in part, a holdover from colonial times:

We are all about English, English, English. Unfortunately, our local language has been termed as vernacular. There has been a discouragement of speaking it, especially in schools. There has been insistence on speaking English. We have lost it. The literacy rate on our local dialect rate is super low. Almost 90% of people of every tribe can only speak it.

This reality would make formal translation into local dialects impractical since local languages are not written. John said that he can speak his native language, but he wouldn’t be able to read it very well. Therefore, the practice of language localization necessitates teachers to be translators of the manual, and, as Kate mentioned, for best understanding, teachers and students spoke Twi. Language switching was a spontaneous form of localization. John described the banter of his class as they got into a “flow” and mixed English and Twi. “We were very free with each other. We could speak in our boys’ voice and tease each other . . . People were laughing and we could say whatever they want to say. It’s involuntary, spontaneous.” This pidgin style did not exist as written language; therefore, spontaneous use of language was preferable over formal translation in this instance.

One reason that mother tongue was used was for basic comprehension because literacy levels for class members were emerging. According to Rebecca, just because a person could
pronounce the words in the manual did not mean they could understand it. Some amount of translation was done to deal with lower literacy levels. “Almost all the classes you had to explain in the local language because some might say, ‘We understand,’ but when you ask them the question, they actually don’t bring out anything. All the time, I had to translate it to the local language” (Rebecca). Similarly, John specifically mentioned that it was the role of the teacher to do the translation. “It’s the responsibility of the facilitator to know how to break things down for the participants, not you [the designer] necessarily.” This statement also reflects how language localization is key to better understanding by breaking things down for the learner. The lessons were taught in English, but the explaining and expression happened in mother tongue.

Responding to student literacy levels, the teacher filled his role by “breaking it down” for students. In fact, there were language teaching moments during the course. “It was almost every time. There was an opportunity for them to learn new words, so that was how the language was used in a good way. To learn words and new vocabularies that they could use in their communication” (Rebecca). There was a positive effect in this instance of enhancing English literacy, though; as John mentioned, historically, learning English came at the expense of native languages. Rebecca projected a positive benefit for student literacy in both languages through the introduction to new vocabulary.

Finally, one specific example of spontaneously shifting language to meet the needs of students occurred when Rebecca used religious songs that were native to the region after her tense interaction with conflicting views on freedom of religion: “They are in Fanti. One of them is Da Nase. Da Nase is one of our commonly made Christian songs.” As the facilitator, she chose songs that were not from the official language in a moment that was particularly unifying for the group. For group identity and cohesion, mother tongue was her choice.
To summarize this section on informal localization, facilitators saw themselves as localizers, informally adjusting to address the needs of their students. These practices included the spontaneous adjustments they made to their classes. These adjustments grew organically out of complex dynamics, including class discussion, teacher-student relationships, individual moments of creativity, and language and literacy needs. There were not rules or procedures for how to localize, but facilitators made in-the-moment decisions about what would be best for students. Also, students themselves were participants in localization. These informal practices of localization could be applied to any content, but the fact that they emerged as major ways in which facilitators identified themselves as localizing indicate their significance to facilitators.

Also, I have discussed different themes of informal localization, but each theme did not exist in isolation. In the experiences that facilitators shared, language localization was also connected to teacher-student relationships, which were impacted by creativity and spontaneity. Furthermore, these practices were tied to context, such as the classroom (or virtual classroom) and the members of the class. These results develop a rich picture of the many interrelated ways facilitators described their experiences with informal localization and how classes were transformed through a series of responsive decisions to adjust the content.

**Formal Localization**

Formal localization is the term I am using for a category of localization that is purposefully planned and may even result in a new artifact, published or not, after the planning. The themes that emerged within this category include (a) OER is not a familiar concept; (b) not everyone wants to be an editor; (c) formally localizing a manual is a heavy process that includes research, collaboration, and tech skills; (d) retain the core of what you are teaching but localize the “how;” and (e) the teacher is the best bridge between the student and the content. As I
interviewed participants, they did not adopt OER terminology, but they did make hypothetical recommendations for how the manual could be revised, reused, and remixed. At one point, I invited those who expressed interest to participate in localizing the human rights manual, so three of the participants took the invitation and created a new artifact: a Ghanaian human rights manual, created on EdTech Books, an open digital platform for creating books. In terms of formal localization, the results here are a mixture of the hypothetical recommendations and the practical experiences of facilitators in Ghana using content created for a broad, global audience.

**OER is Not a Familiar Concept.** The participants in this study encountered OER as facilitators whose sense of copyright limitations, as well as their accustomed practice of receiving content, did not prepare them to look at the manual with an expectation of revising it. “First of all, I didn’t know there could be changes because some of these materials are subjected to copyright and all. So, if we had to add them, we need some of this copyright release or something from the person before you can add them.” Although the manual had a creative commons license, the facilitators were not aware of it, and Rebecca’s sense of traditional copyright was strong, enough that she assumed the manual was not “open.” She had never knowingly encountered OER before or participated in editing it. She didn’t have the experience or language to encounter a manual and wonder about the 5R permissions. Similarly, Kate espoused the ideal of sharing content, but also asserted the importance of copyright: “I think it’s important we make it easier for people to have access. Before we do that, we need to copyright it so nobody can take claim of it.” These two sentiments are at odds with one another but make sense from Kate’s perspective as a fiction writer. Not having a traditional copyright opened her up to being taken advantage of; adding to her economic vulnerability. She had a strong personal
sense of copyright protection inhibiting her from initially approaching the manual with the purpose of editing it.

John’s lack of interest in formally localizing the manual initially was a matter of how one customarily approaches a manual. “I didn’t think that this could be localized. So my brain was not configured in a way to evaluate that. Do you get it? I didn’t think about that. Sometimes we go through things, and we just follow the structure or whatever has been given us.” Teachers traditionally have not had the capability to edit their textbooks, so it was not a consideration in John’s encounter with OER.

**Not Everyone Wants to be an Editor.** Once participants knew revising and remixing was an option, not all of them were interested in shifting roles from facilitator to editor. Initially, none of the participants attempted a formal revision of the manual, despite its cultural awkwardness, because it did not even occur to them. Some participants were drawn to the project of editing and publishing a localized manual, while some were not interested in shifting roles from facilitators to editors. Kate, who was most involved in creating a localized human rights manual, indicated that teaching the class was stressful but short, while creating the manual was easy, but time-consuming. Overall, she enjoyed the challenge: “Like I said, making the manual is fun.” John eventually decided that being an editor was too much work when there was already a manual available that he could adapt for his class without formally editing. “Some places, you might find people who would be interested in contributing in that way, and other people might think it would be demanding. And it would be demanding.” He felt that approaching the manual with the purpose of editing was an extra burden when his purpose was to teach his class effectively. “Why would I want to go spend so much time and go through so much trouble rather than just using the options that has been provided? Customizing all the stories or whatever to suit
the people I'm having the discussion with. It makes more sense to have a prepared structure than not. So, you have some guidance, you know where you were going.” These two demonstrate the difference in how individuals approach OER content and the task of localization, and how their different approaches are linked to which role they identify with or are personally comfortable with.

Beth was different from the other facilitators because she independently chose to formally take the manual and remake it into slides, adding her own visuals and activities, but she did not speak about it in terms of copyright permissions or editing, and she was not intent on creating another version of the manual that could be further distributed. As with the examples of informal localization, her localization was student-centered rather than content centered. Formal localization of OER required mind shifts from being a facilitator to being an editor and from having a restrictive view of copyrights to having permissions for use. Not every teacher (or facilitator) wanted the added job of editing a manual; therefore, using the 5R’s of OER was not a familiar process for facilitators encountering the content in Ghana, and the extent of their localization practice related to their chosen role, personal disposition, and time constraints.

**Formally Localizing the OER Manual Would be a Heavy Process.** As the interviews progressed, I brought up the permissions for adapting an OER manual, and asked students how they would localize a manual. At this point, though participants’ comments were hypothetical or dealt with a future localization project, they reflected sentiments that colored how or if they would localize content. What emerged was a feeling of heaviness because this would be an extensive process involving a feeling of burden, logistical difficulties of conducting user research, and technological challenges. Hypothesizing about doing research, Randall was not sure how the process would unfold: “But how is it to be done? Are you just to go out and collect
Feeling unsure about how one would proceed was part of the burden of formal localization. Also, Randall talked about “you” then “I,” shifting from who would potentially do the work from me to him, unclear about who would ultimately do the work. John also began with questions: “How is that edit going to be? Is it going to be specific to that class, or it’s going to be an edit that is going to be used across [regions]?” His questions about how to create a localized manual were marked with unsurety and a sense of great effort. John shared, “You tell me [to] . . . prepare a lesson for ‘Equality.’ I am now going to do research and do this and that. That is a lot of time. That’s a lot of effort put into that. Is this actually going to work?” Their feelings around formal localization were heavy, especially in contrast to the earlier discussions of spontaneous localization.

The second burden adding to the feeling of heaviness was the logistically complicated task of doing the research necessary to understand learners in their various contexts. Randall recommended that I—or whoever was doing the localization—should travel through the region to get to know learners: “At least go around to a few villages and talk to people and know how they think and what they do and what they are.” Realizing that it would not be feasible to visit every village in the region, he talked about going to representative communities and designing content for their common interests: “At least we can make the difference between those who live in the city and those who live in rural area then find a balance between the two.” He didn’t detail how to determine which cities to use as representative cities or how much of the regions they would represent. Tobias also mentioned going around to understand learner needs: “So the specific area I would target where a visit may be possible, I’ll make sure to contact or meet with the people, talk to them, and then observe them. Why would I talk to them? Because maybe
something I may observe will not be what I think of.” Without real-life, embodied contextual knowledge, the designer would not have a complete enough understanding to create relevant content. He also talked about gathering “data” from learners to guide future edits. Kate’s mental vision of the process of developing the manual involved a piloting stage where someone studied user responses afterward. “With this one, after it goes out, we will have to get peoples’ feedback and make changes based on their feedback.” The unstated logistical burden comprised these questions: How long would it take to travel around? Would there be financial support? What working technology was available? Who would be the designated researcher? The weight of these logistical concerns limited the conversation to general suggestions of how one might start the process. Also, in the process of creating a localized manual for human rights, they did not complete the research and the multi-step evaluations, which may suggest that they did not have adequate support or inclination to complete such an in-depth process.

Additionally, participants acknowledged that this kind of information-gathering was problematic if done by an outsider, and that if it was done it all, should be done by a local to avoid miscommunications and misinterpretations. “If you present yourself in a certain way, they will probably lie . . . They will tell you, even if things are no good, they will say, 'Ahh, we are nice. You can come to our village.' But when you go to the village, you see different things.” (Randall). In this statement, Randall showed the misunderstandings that could happen between an outsider and a learner, even if the outsider visited the region and sought to understand the learners. However, the benefit of being in-person is seeing the reality for oneself. One solution John suggested was to avoid possible misunderstandings caused by not knowing the people well: “At the end of the day, having universal analogies like the bird in the cage is probably the best.” Using universally applicable images, he was inferring, would negate the need for extensive
research into local culture and practices (though I think the likelihood for coming up with seemingly universal but still culturally inappropriate content would still be high). However, it may also negate the benefits of localized content already detailed by participants.

Another burdensome aspect of localization related to on-going iteration. The fact that the manual was licensed with perpetual permissions for revising, reusing, and remixing created the potential for future users to also localize, and facilitators felt the impracticality of never-ending editing. When asked how local a manual needed to be and if every place needed their own localized manual, Randall responded, “No new book. It is not going to be one book for every village because that is going to be very crazy. I would never do that.” Kate noted the potential for others the make their own adjustments to the new manual she helped create: “They don’t really have to go by it.” On the other hand, when asked how many versions of the manual there should be, she answered, “I think we can’t keep on modifying it. I think there should be a first trial of it, and then after a time period of the first trial, the changes stop and it becomes the standard manual.” She recognized the amount of work required and how that work would have to stop somewhere in the interest of maintaining a standard body of knowledge.

Finally, the technical challenge of revising a manual inhibited the practice of localization. Kate commented, “Before we make someone a creator, we need to make sure the person has that skill. This is what I’m thinking. The person should have that skill to create the literature or something.” She went on to suggest, “But I think it would be the job content who know how to do it, who know how to log in to change the language of the manual into another language.” When Kate actually worked on the localized manual, she enjoyed the project, but she did not escape technical difficulties. “I am done with the modification to the human rights, all the principles but I am yet to type them. I wrote them manually because I was having issues with my
laptop at that time.” Technology was a barrier to localization. Her localization experience, in reality, was her feeling slowed and frustrated by technical challenges.

**Retain the Core “What,” but Localize the “How.”** The actual process of formal localization was described by Beth: “I have access to the manual, so with that, my main purpose is to not miss the main point.” The pattern that emerged from their formal localization was that facilitators kept the principles and even the structure of the lessons intact, but they exchanged methods of teaching the principle for more culturally relatable methods. They kept the *what*, but they adjusted the *how*. When asked how he would change the existing manual, Tobias stated, “First of all, if I were going to make changes in the manual, I think maybe some pictures would be added, and some of these activities would be localized to our local environment. We will have to look for activities that will be favorable in our communities.” In Tobias’ account, pictures and activities were methods. He did not mention the principles he was teaching here, but he implied that there was a fixed principle he was focused on, and he wanted to find an appropriate method with which to teach it. John suggested several types of content that could be exchanged without modifying the core concepts of the lessons: “Activities, the photos, the stories could be localized. There are many stories around. There are many stories that relate.” These are methods, and he talks about exchanging methods as superficial changes that should not affect the core principles: “There should be limits on what facilitators can personalize” (John). This is in accordance with Beth’s advice to be true to core principles: “For instance, if we are treating “Freedom,” I think at the end of the lesson, regardless of how the discussion goes, what needs to be taught must be taught.” The *what* needed to be emphasized, though the *how* could change and flow more freely.

**Exchanging Photos, Activities, and Stories.** This subsection will look at specific examples of how facilitators localized the human rights formally by adjusting how lessons were
taught, switching out photos, activities, and stories to include more representative or relatable works, but staying close to the core message of what was taught. In the interviews, the idea of changing photos to make the manual more relevant for students came up several times. As previously mentioned, Rebecca’s students registered that the pictures did not seem Ghanaian, and she told them, “Oh. They shouldn’t worry. Soon, their faces will be coming.” At the time of this quote, Rebecca had begun collaborating on a localized version of the OER human rights manual. She was assuring her students that local pictures would be included in the new manual. As she got further along in this process, she recommended, “Maybe we can add stories from our local communities, not just our far-away communities. They want to feel people in their area inside this course.” In this example, the practice of OER was to change pictures to represent learners’ faces while not changing the main point of the lesson.

However, this practice of picture swapping brought up another other challenge: Which picture best represents learners? John was sensitive to pictures showing African poverty in an educational manual because those kinds of pictures presented one reality, but not an ideal reality. These superficial localization practices of trading out images may be too superficial in some cases. He referred to a picture in the manual in which a family in front of a dilapidated home were pointing at a laptop, a picture which I felt was staged only after visiting Ghana myself.

Let me talk about education. You used a photo of a family having a laptop. You see. That is great. However, something. This is a personal thing. I feel like a vision is more important than the reality. The reality is that yes, you have situations where people don’t have access to computers or even access to the internet. What is the vision? I would use the laptop and the family and have a contrasting picture of . . . a server room with huge computers and someone has laptop working on it. That projects something more.
He went on to suggest that pictures that represent Africa are just “face value.” They are not true to his experience in Africa because they just represent one, and often negative, version of life in Africa. In the “Right to Work” lesson, for instance, he said, “You have a hawker. That is not work. Not ideal work. How are you going to make enough money to pay the bills? The mentality is very crucial. I am concerned about the subconscious. We get too much of face value.” In this context, John is referring to “face value” as the superficial representation of life in Africa which usually depicted poverty, not progress. John was concerned that in some instances “representation” was misrepresentation or limited representation, a potential of localization practice. The subconscious effect on Africans and outsiders alike may be damaging to the perceived potential of his people.

Beth revised the manual each week, shifting activities to better suit her students. Her take on the “sing a hymn” activity for the lesson on “Freedom of Religion” was different from Rebecca’s version in which she had the group sing multiple common Christian hymns. Beth changed the activity into a karaoke style activity:

I actually decided that each of the members will write their names, and then we will put it in the bowl. A person will come a choose whoever’s name is chosen will be the one to sing. (Beth)

Another example of changing the activity was when Rebecca planned to add an activity to a lesson that did not have one. The lesson was on service, and she created an activity in which students carried someone in order to make the point that we communities could together to help individuals. In contrast, Kate removed activities entirely from her lesson plan when her group decided to meet on Zoom and the activities were no longer suitable.
However, three of the participants took “changing activities” a step further and designed their new version of the human rights manual to invite localization more explicitly. When Kate was helping to create a local version of the human rights manual, she created options for either in-person or Zoom class. “When we made the manual, it came to mind to make activities for zoom . . . We can make a face-to-face activity and then we can make a Zoom activity, and the facilitator can choose which one to go by.” In this example, Kate localized for the online medium of the course, but she was also showing sensitivity for future facilitators who could “choose which one” to use. Another example of this type of design that gives facilitators permission to localize came from Rebecca as she brainstormed ideas for localizing the manual:

[M]aybe you can say . . . “Activity of your choice” in the manual, so when these manuals are being handed to the students, they wouldn’t think it is just tailored to this particular activity, so they can actually think why the instructor or why they are bringing an activity.

In these two participants’ experience, as time went on, they explicitly built localization into the manual, indicating a growing priority on this type of facilitator agency and their sense that facilitators might need to see the invitation to localize in print.

Several participants mentioned wanting to exchange the OER manual’s original stories with local stories, retaining the core but changing how it is taught, but they did not necessarily agree on which stories were best. For instance, there was one story about a boy in Malawi who built a windmill for his village, which John cited as a great example of a local story: “His community had a need and he had limited resources, but he was able to push through and steady, and make something out of the little that he had. That is something that is very personal to us. It relates a lot. I’m also kind of like that kid right now.” John felt a personal connection to this boy
and found the story inspiring, even though he was from another country in Africa. Beth used the same story as an example of where she would replace the story for a story of a native. She would “dig deep to look for a situation like that, someone who has used, who has influenced the community with regards to working his education, applying whatever he learned.” Both sensed a need for stories people could relate to, but they differed on how local that story needed to be.

Though trading pictures, activities, and stories for more appropriate ones was part of the formal practice of participants, there was an acknowledgement that there should be limits to localization. Tobias explained it by saying, “Whatever we do in life, there is a boundary. There are rules in which you have to operate.” He said that localizing “doesn’t mean everything” because there should be some “harmony” between different versions of a manual. John used the word “structure”: “Without it, you are going to roll all over the place.” At an extreme, John warned that the “Localization Paradox” (Wiley, 2021) is real:

If it is localization and it is done to a specific place, then it could be altered in a way to lose the main content itself. Think of “Freedom of Expression” and localize it to Ghana. In Ghana, most of the tribes have a strong value that you don’t speak against elders. Do you get that? So now we are localizing it to us. So, we are going to modify freedom of expression to suit that value, of which it will end up, it will no longer be freedom of expression (laughing).

The decision about how much localization was too much was one these facilitators approached individually, and even if they prioritized localization, as a group, they were conservative in making changes, preferring to stick fairly closely to the original manual, or at least perceiving themselves as doing so. Both Beth and Kate claimed they didn’t really change anything, but both gave several examples of adjustments they planned. However, both stayed close to the structure
of the original manual: “We followed the same procedure” (Kate). Randall asserted the need for localization so that learning would “become more of a tradition,” but then he said, “I remember I used only one picture from outside. Most of the pictures I used were from the manual.” He may not have had the opportunity or time to localize in the way he would like to. Each facilitator’s level of localization and their perception of how much they localized varied on an individual basis.

The Teacher is the Best Localizer. In terms of who should recontextualize OER developed outside of Ghana, participants identified facilitators as being well-situated to be cultural intermediaries between designers and students. However, the extent to which the facilitator should be a collaborator or a creator differed according to individual participants’ opinions. Randall initially indicated that the designer needed to work hard to immerse herself in the local culture, including “going to where you need to teach and know the people you are going to teach. Know their surroundings, whatever they are surrounded with, why, and relate the content to what they have will make an impact that will be meaningful to them.” However, as the interview went on, Randall acknowledged that those efforts might not be completely effective because “we don’t see things the same way,” and the outsider would need a cultural collaborator: “I think the designer and the teacher can cooperate. If they don't work together, if I am the teacher and there is something I want to cover, probably I don't know how to put things in place. Probably the teacher should be the bridge between the designer and who is to be taught.” Tobias also commented on the difficulties outsiders might have localizing content: “The source [of localization] will be best from the facilitators because they go to the field [to teach human rights in different regions]. They do evaluations. They travel around . . . For you, an author, you try to improve the lessons, I see it as a difficult task to do. I know the people.” John did not release the
designer or author from collaboration, but he envisioned the collaboration in steps: first, the designer creates OER, then the teacher localizes, but the two depend on each other.

On the other end of the spectrum, Beth did not consider herself, as a facilitator, to be in a collaborative relationship with the designer. She said, “I study the manual, make a PowerPoint, and then I come to present the class. That is what I do.” She interpreted the role of facilitator to include the responsibility of building that cultural bridge for her students.

To summarize the themes associated with formal localization, most participants did not approach OER in unique ways or attempt to use its 5R permission, likely because they were not accustomed to such a participatory approach to traditionally copyrighted content. As they became familiar with the idea of localizing the manual for their regions, either hypothetically or realistically, participants noted a requisite shift in mindset from facilitator to editor, which was not a natural or desirable shift for all participants. Participants perceived formal localization as a heavy process, involving time, research, and tech skills. As facilitators, their job was to not miss the point. Given the principles of human rights, they tried to stick to the core principles and retain the “what” while thoughtfully planning appropriate methods to get those principles across. In fact, most participants expressed how well-situated facilitators were in local contexts, knowing their students, to be cultural intermediaries to make decisions about how content should be localized. Even if they did not see themselves as editors, they did suggest that facilitators made good partners in the most collaborative scenario or good re-designers in the more independent model.
CHAPTER 5

Discussion

The purpose of this study was to understand the practice of localization by teachers in Ghana: Given OER content developed in the U.S., how did they localize it for their learners? What were the barriers and affordances to OER localization, and how did teachers in Ghana cope with these? Findings created a detailed picture of the experience teachers had and showed the various practices individual teachers used to tailor content to their learners.

Findings revealed the complexities teachers experienced as they encountered decontextualized content, including feelings of ill fit and cultural conflict between global and local ideas. They also revealed two main categories of localization practice: (a) informal localization, which includes in-the-moment, dynamic practices based on social relationships and practical choices; and (b) formal localization, which includes a role shift from teacher to editor, the heaviness of the task of localizing content, and individual practices employed to adjust content and retain the core ideas while making content relevant to learners in Ghana. In the following discussion, I will address the assumptions these finding reveal about how OER is encountered, as well as the implications for OER designers and researchers.

Assumptions About how OER is Received

Pre-existing literature noting the potential of OER to allow for localization makes certain assumptions about how people all over the world will be able to retain, revise, remix, reuse, and redistribute OER. Results from this study both support and refute these assumptions.

Little Knowledge of OER and its 5R Affordances

Studies on OER often site statements like this from the William and Flora Hewlett Packard Foundation (2013): “By enabling virtually anyone to tap into, translate, and tailor
educational materials previously reserved only for students at elite universities, OER has the potential to jump start careers and economic development in communities that lag behind” (p. 4). However, in this study, none of the participants were familiar with OER. If the experience of my participants is similar to other educators in Ghana, this research suggests that either OER has not made it to “center stage” of education in Ghana or that there are barriers to that shift that make tapping into, translating, and tailoring content less likely.

One such barrier was participants’ sense of traditional copyright, which kept them from approaching the OER manual as something they could formally revise or recreate for their learners. A study in South Africa similarly cited faculty members’ concept of “fair use,” and, though not entirely correct, gave them the sense that anything could be freely copied if it was relevant for education; the need for creative commons licensing was less important with this understanding (Cox & Trotter, 2017, p. 581). Even after being introduced to OER’s unique affordances, participants in this study wanted to apply a traditional copyright to the localized manual, in one case articulating the importance of copyright to protect economic vulnerabilities. However, this sense of copyright did not prevent them from localizing content informally for their learners.

Just because OER is available does not mean that users will identify it as such and use its 5R permissions. In some cases, OER creators may opt for a more protective license structure for content related to sacred cultural transmission (Openneer, 2021). On the other hand, to better understand the use of OER, more research is needed to show how much content educators encounter that is or is not OER. Perhaps the very fact that content is not protected by traditional copyright makes it more likely for teachers to access it, without realizing it is OER. Further
research is warranted to determine how a person’s awareness of OER impacts localization practice or how OER is more or less likely to reach facilitators in Ghana.

**Technological Challenges Create One-Directional Flow of OER**

In a large study of faculty members using OER in higher education, de los Arcos and Weller (2018) showed that “[w]hile their ability to engage in the adaptation of the resources is hardly affected [by connectivity issues], any intention educators might have of sharing these materials beyond the confines of a walled space and onto public ether is rendered futile without the means to do so” (p. 6). The current study supports this finding. Technological issues prevented those who were interested in formally creating a new OER human rights manual from easily doing so.

The original OER human rights manual was a PDF file. Though it was easily shareable through WhatsApp, it was un-editable. It was not until the teachers were formally invited to participate in a localization project and the manual was converted to an editable online format that teachers were able to access it for editing. Even then, intermittent internet, computer issues, battery issues, and experience using technology for publishing delayed the project. This finding relates to a recent study of 7,700 faculty members that showed patterns of OER use around the world, indicating that faculty in the Global South were more likely to adapt OER content, but less likely to share content, than faculty in the Global North due to internet connectivity and available data for uploading (de los Arcos & Weller, 2018). The barriers to OER use in Ghana evidenced in this study are part of the larger global divide between producers and users (UNESCO, 2005). This divide is difficult to cross given the complex challenges OER localizers faced in this study. Velestianos (2021) encourages researchers to scrutinize the production and distribution of OER and warns, “If we are not mindful, the creation and use of OER could not
only reflect inequities but reinforce them as well” (p. 401). Because of cultural, language, and technological mismatches, OER that is meant to be more accessible to all learners, may be less accessible by users in Ghana or more exclusive than inclusive in terms of participation, thereby reinforcing inequities.

The Task is Burden

Recommendations for localization may not consider the realities of teachers in Ghana, such as this one from UNESCO (2019): “supporting OER stakeholders to develop gender-sensitive, culturally and linguistically relevant OER, and to create local language OER, particularly in indigenous languages which are less used, under-resourced and endangered” (p. 8). While teachers in this study noted instances in which the content “felt American” but did not visually represent their learners, did not match the language or education levels of their learners, or even culturally imposed on learners, not all the teachers were inclined to make formal changes to the OER human rights manual. The investment of time and effort was too great for most of them, and the scope of the localization project was intimidating. If the participants in this study are similar to other community educators in low-income countries, they may not realistically have time and resources to engage in localization. Furthermore, the shift from being a teacher to an editor is not a shift that most of the participants wanted to make. Cox and Trotter (2017) pointed out that these volitional moves are connected to other factors, meaning that participants’ decisions about when and how to localize may have been affected by larger social, political, and economic systems they operated within.

UNESCO also recommended efforts to support and collaborate on localization of OER as an intermediary step, which may be more realistic, though vaguely defined. In this study, it should be noted that those who participated in the effort to create a localized manual reported
feeling empowered by the experience, which is consistent with Arinto et al. (2017), who connected a higher level of participation with OER with social “empowerment” (p. 587). Additionally, this study showed on a smaller scale the empowering significance of locus of control in decisions about localization, as well as the fact that informal localization of OER (or other content) may occur more feasibly and effectively for a given class, even if the resulting experience is not shareable.

**Implications for OER Designers**

As one who had the unique experience of designing content in the U.S. and then discussing with teachers their experience using that content in Ghana, I can speak personally to the implications for designers. Based on my participants’ experiences encountering this kind of decontextualized content, the risk of creating OER content that negatively imposes on learners’ cultural tradition or creates a feeling of otherness or misrepresentation is real. At the same time, *not* sharing curriculum may be seen as oppressively withholding knowledge or excluding learners interested in accessing content. King et al. (2018) pointed out that it is not an either/or dilemma, and that seeing OER content as either “obvious ‘public good’” or “ill-thought-out imposition” is a limited view that distracts from more important issues of equality. For a designer far-removed from the context of the learner, the current study showed that well-meaning content may be received as being “not for us” or “taking away from Africanism.” These feelings echo Aramide and Elaturoti’s (2021) acknowledgement that learners in Africa have level of distrust of content from the Western world due to residual colonialism, creating a barrier to OER adoption. At the same time, the content provided positive, enlightening experiences. If the purpose is truly shared knowledge, that can’t happen without the design of new OER. For the designer seeking to
avoid negative outcomes, some key principles from this and other research may serve to help navigate these complexities.

**Design With, Not For**

As previously mentioned, one study of youth knowledge-workers in Nepal suggested that localization must be done by locals (Ivins, 2011). As learners in this study were not initially aware of OER permissions that allowed localization, a designer creating content for a global audience should make efforts to design OER with learners, not for learners (Freire, 1973). As not all participants in this study had the time, resources, or inclination to localize content, this collaboration involves sensitivity to the degree of collaboration appropriate. Designing with prospective learners may happen along a spectrum of collaborative engagement. It may include actual collaboration between individuals with shared decision-making in the design; it might include engaging in listening sessions and designing responsively and iteratively with feedback from local learners; or, with less engagement, it may include explicit invitations in the content, such as “Insert a story or activity familiar to your learners to illustrate this principle.”

These suggestions are in line with Lambert’s definition of OER through a social justice lens. “Open Education is the development of free digitally enabled learning materials and experiences primarily by and for the benefit and empowerment of non-privileged learners who may be under-represented in education systems or marginalized in their global context” (2018). Development of OER should happen by globally marginalized, for their empowerment. This phenomenon was noted by Wolfenden and Adinolfi (2019) in their localization study in India. Teachers with the task of localizing state curriculum did not stray far from the original manual, but the process impacted them as teachers in adopting new ways of teaching. It is also consistent with Olivier’s (2020) addition of the 6th R, “recontextualization,” which he articulates as student-
directed design to produce content that is “locally, culturally, and linguistically relevant” (p. 21). This study adds evidence from individual facilitators in Ghana that this kind of informal localization was happening, but more formal localization with the development of a new manual required collaboration.

**Informal Localization is Inevitable, So Provide the Tools**

In order to open the door for teachers to do more formal localization to add to the larger body of OER, it is necessary to design with this in mind in terms of design format. Perhaps it is comforting to designers that no matter what design process they engage in, this study clearly indicates that teachers will localize content in various ways to appeal to different learners, mostly as the result of social relationships and the dynamic process of teaching and learning. Amiel (2013) noted the same phenomenon in a study of OER localization, that as OER content leaves the hands of the designer, it is inevitably localized informally by the sheer act of being used in a new context, but, at the same time, the formal localization may be limited by format of the OER or access to design tools. Designers who design content for global audiences need to take this into account and avoid the false assumption that teachers and learners must implement content as is, but design with this inevitable localization in mind and include tools and source formatting necessary for localization (Amiel, 2013; Hilton et al., 2010).

The desire to tightly script or control content so that any teacher anywhere could pick it up and teach with any level of training (without localizing it) is counter-productive, given the evidence that teachers will exchange content and rearrange it to fit their context. Also, designers need to anticipate this localization as a key to learner understanding. David Wiley (2021) termed this “the Localization Paradox,” in which OER designers may be frustrated if OER adopters localize effective design elements out of the curriculum without realizing it. His solution to this
is that “we should always design the most educationally effective resource we can. If its instructional design features are removed or rendered ineffective during localization, the result will be an informational resource fit for use [in] the new context” (para. 13).

**Design With Discussion**

In terms of localization, one strategy supported by this study is the use of discussion elements in a course. Participants noted that even if they went straight by the lesson in the original manual, the discussion format allowed them to add personal experiences, or to “add their own spice,” which they considered localization. The space created by discussion allowed local participants to add their own color and relevance, even if learners did not specifically relate to the content. In this study, the highlights of the course came through discussion, including understanding, tolerance, and empowerment. In fact, less relevant content was rendered relevant as individuals added their personal applications. This is an important point because, as a designer from the U.S., I was cautioned by other designers in the U.S. not to use discussion format because the typical African education experience followed a lecture model and students would not respond well to requests for discussion. This study refuted that assumption and supported the practice recommendations of Arinto et al. (2017) to promote teachers’ professional development and “participatory pedagogy” such as discussion as means of empowerment through OER (p. 589).

**Allow for Linguistic Flexibility**

Current literature indicates that the most common use of OER in countries outside of North America is translation (de los Arcos & Weller, 2018) and that most of the OER created is in English (Amiel, 2013), requiring translation for non-English speaking learners. The UNESCO Second World OER Congress in Ljubljana (2017) affirmed the need for the development of local
language OER. However, this study indicates the complexities of language needs. For example, a formal translation into Twi, the most common native dialect, would be inappropriate because while people speak Twi, they read and write in the official language of Ghana, which is English. In this context, informal translation by the teacher was more appropriate for learners. This is also further evidence that localization decisions should be made by locals because an international policy mandating translation into local dialects may not meet the needs of the people.

**Implications for OER Researchers and Future Directions**

There are only a handful of evidentiary studies from around the world detailing the practice of localization. The current study contributes to a growing body of literature on the use of OER by providing evidence for how content is localized by teachers in Ghana. Future research could include studies from other regions of the world that might challenge or support these findings. As I found that a great deal of localization happens informally, as dynamic practices based on relationships and context without any record or artifact, it is critical for researchers to acknowledge that there may not be a record of all the localization that takes place. More research could be done to capture instantiations of localization.

Future researchers may benefit from this research framework (Figure 5) that highlights different aspects of OER localization and how these areas for localization research are related.
Researchers should be aware of both informal localization and formal localization. For users of OER who may not have access to technological resources, informal localization, or the technological troubleshooting and cultural contextualization that happens in the moment, is equally as important to the discussion of OER as formal localization that results in a new artifact. Furthermore, researchers exploring specific areas of localization should be aware of the hierarchical, connected relationship between all areas. Access to digital content is foundational, and factors affecting access will preclude localization at higher levels. If users cannot access, they cannot localize. Research into access could include research on various access difficulties or solutions, such occur in MOOCs or with mobile hotspot servers. The next level of the pyramid, digital format, could include research on the how much OER is digitally manipulable, what platforms are most effective in different parts of the world, and what practices exist to
circumvent inflexible platforms. Language localization may happen formally or informally, but without this level of localization, other steps towards contextualization will be difficult. This area of research could include studies on how language is translated informally, what level of linguistic localization is appropriate, and who generally makes decisions about language. In terms of cultural contextualization, areas of research could include studying the effect of racial representation in curriculum on a student’s learning; learning outcomes based on representation; and the degree of localization necessary for optimal learning outcomes. The final area of localization research is structure and pedagogy. Research could include the impact of OER 5Rs on user pedagogy, best practices for structuring OER, including specific invitations within the content to use locally relevant topics and activities. These research suggestions are not exhaustive as research on OER localization is an emerging field of exploration, but they provide examples of how a researcher might use this framework to formulate research questions.
CHAPTER 6

Conclusion

This study explored the use of OER developed in the U.S. and used by facilitators in Ghana. I examined the localization practices of facilitators who tailored a human rights course to their students. One of the major problems with current OER production is that it comes largely from the Global North and is written in English, rendering it linguistically, culturally, and even technologically inaccessible to learners in Ghana. These inaccessibilities may be more extensive than researchers and designers realize, as is the case in this study. Rather than providing a key to open the “lockbox of education” (William and Flora Hewlett Packard Foundation, 2013, p. 4), facilitators in Ghana encountered cultural tensions and feelings of ill fit as they tailored content to their learners. Also, this localization project took place in context of everyday lives and larger complex social and economic systems, limited bandwidth and technological problems, linguistic differences related to colonial language imposition, educational differentials, and cultural mismatches, providing a rich portrayal of how localization practices are influenced by several overlaying factors.

The major findings of this study show two main categories for how facilitators localized content. The practices of localization fell into two main categories: informal and formal. Informal localization happened dynamically in the classroom as a result of relationships and teacher intuition (Table 3). Formal localization was a more involved, contrived process that required explicit invitation and some technical facilitation and may have resulted in a new artifact (Table 4). In most cases, localization was done informally, as facilitators made lesson adjustments in the moment. Facilitators made informal adjustments in the following ways:
Table 3

*Informal Localization Practices*

<table>
<thead>
<tr>
<th>Type of Adjustment</th>
<th>Description of Localization Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language</td>
<td>Informal translation from English to Twi, Ghana’s native language. Due to colonial pressures, Ghanaians read in English and speak in Twi, creating complexities for learning in mother-tongue. <strong>Teaching English vocabulary.</strong> Although English is the official language, Twi is the common language. Some facilitators included literacy-building efforts.</td>
</tr>
<tr>
<td>Technology</td>
<td>Creating workarounds for poor technology. This included poor internet connection, insufficient data, broken hardware. Students persisted and found workarounds. The difficulty of dealing with technological problems was more bearable than time and travel costs.</td>
</tr>
<tr>
<td>Cultural contextualization</td>
<td>Used local, relatable pictures, stories, and activities. Some content switches happened in a moment of teacher inspiration. Some content switches happened in planning prior to class. <strong>Added local “spice” through personal experiences shared in discussion.</strong> Even if teachers went through the manual as written, learners’ personal responses to discussion questions rendered content relevant.</td>
</tr>
<tr>
<td>Social responsiveness</td>
<td>Developed relationships with students to teach responsively. Facilitators based plans and adjustments on helping students understand and feel accepted.</td>
</tr>
</tbody>
</table>

The second way in which participants localized was through formal localization practices. Participants viewed formal localization as a heavy process, and not all participants were inclined to participate in localizing the human rights manual. For those that did participate, ways in which they localized content were as follows:
Table 4

Formal Localization Practices

<table>
<thead>
<tr>
<th>Example of formal localization</th>
<th>Description of formal localization</th>
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<tbody>
<tr>
<td>Hypothetically planning localization project</td>
<td>The endeavor would be involved and burdensome. Participants making suggestions about how to formally localize expressed the challenge of going to specific locations, doing the research to be familiar with local traditions and learners’ needs, and publishing a local manual. They were not sure who would fund the project and who would do the research, though most agreed that “the teacher should be the bridge” (Randall).</td>
</tr>
<tr>
<td>Creation of a new manual</td>
<td>Project was completed by participants but supported by NGO. The idea to create a new manual came about in discussions of OER as interviews progressed.</td>
</tr>
<tr>
<td></td>
<td>Digital formatting had to be changed to an open, online format to make editing possible.</td>
</tr>
<tr>
<td></td>
<td>Technological problems slowed the process. Dead batteries and broken laptops caused delays. Knowledge of the editing platform meant that only one participant could make edits digitally.</td>
</tr>
<tr>
<td></td>
<td>Cultural recontextualization changes. Changed pictures and activities to better reflect local culture and values. Shortened and simplified lessons that were too long or linguistically complex for non-native English speakers but kept the manual in English.</td>
</tr>
<tr>
<td>Creation of weekly presentation slides</td>
<td>Remade lessons into adjusted slides. One facilitator re-wrote the lesson in new slide presentations. She ended the human rights course with her own version of the course, though she did not mention sharing it or openly licensing it.</td>
</tr>
</tbody>
</table>

Although not all the participants were active in formally localizing content, all expressed concerns about the process and how the process would proceed. For instance, they expressed concern that hypothetically, someone would need to do a great deal of research to get to know the local culture to create content that was relatable in terms of language, literacy levels, education levels, and cultural practices. Furthermore, the endeavor might be so involved in creating multiple iterations that a teacher might not be interested or be able to shift to an editor’s role. Though none of the participants were initially aware of OER, they all responded positively to the idea of localization and expressed a need for localization of content, but their reactions to participating were varied.
This study addressed some assumptions about the democratic educational equity of OER as it moves from the Global North to the Global South. It supports research that suggests that access to technology is a major breakdown point for the localization of OER, but participants also showed the willingness to push through difficulties as well as they could—though they were delayed and troubled with persistent connectivity and technology problems. It also suggests that discussion was an effective learning model to stimulate informal localization. The current study refutes broad claims that learners anywhere can retain, revise, reuse, remix, and redistribute content due to lack of awareness of OER, time and technical constraints, and lack of desire or ability to participate with content in these ways. It also refutes assumptions about formally translating content into native dialects. In the case of Ghanaian learners in this study, because of colonial pressures to learn English over half a century, learners would not have been able to read a manual translated into Twi, their native language. Informal translation was a better immediate linguistic solution, and teachers acted as translators to improve student understanding when non-native, English speaking skills created communication barriers. However, it is conceivable that as more content is created in Twi and more emphasis placed on the use of Twi in education, this would no longer be the case.

In term of implications, I have made suggestions for designers. First, designers engaged in creating content for distant audiences should be aware that the content may not be well-suited for learners in different contexts, and the mismatches may create feelings of otherness in users, negatively impose culturally on local practices and ways of knowing, or be effectively inaccessible in terms of revising, reusing, and remixing due to contextual breakdowns. I echo suggestions of UNESCO (2017) to design with, not for, to include tools to make content revisable (Hilton et al., 2010), and to be sensitive to language needs.
In all these suggestions, I affirm that locals know what locals need, and while there is some urgency to promote the creation of OER in places like Ghana, respecting local practices should include acknowledging the practice of informal localization. Velestianos (2021) wrote about the need for looking critically at how OER is developed: “If we are not mindful, the creation and use of OER could not only reflect inequities but reinforce them as well” (p. 408). While this study shows the reality of the inequities that exist for facilitators in Ghana and the many factors that impact localization practices, it also shows participants’ propensity to push through the inequities insofar as it served their purposes to do so. Not everyone wanted to edit a manual, but all of them found ways to deal with troublesome technology issues, complex cultural tensions, immediate language needs of students in their classes, and recontextualization. Knowing what decisions they made and how they adjusted content to better fit learners will inform researchers and designers alike about where they are in terms of knowledge of OER and their developing practice of localization. I echo other researchers in encouraging further research to look beyond the potential of OER and explore the practice of localization, including why and where this is not happening in order to understand future socially inclusive and collaborative solutions.
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APPENDIX A

Consent/Institutional Review Board Approval Letter and Renewal

Memorandum

To: Jarin McDonald  
Department: BYU EDUC Instructional Psychology & Technology  
From: Candice Araujo, MPA, BYU Associate Director  
Warden Larson, MPA, IRB Administrator  
Date: August 30, 2021  
IRB #IRB2021-167  
Title: A Qualitative Study of Localizing OER Resources  

 Brigham Young University's IRB has approved the research study informed in the subject heading as expedited level, categories 6 and 7. The approval period is from 08/31/2021 to 08/30/2022. Please reference your assigned IRB identification number in any correspondence with the IRB. Continued approval is conditional upon your compliance with the following requirements:

1. A copy of the approved informed consent statement and associated recruiting documents (if applicable) can be accessed in IRB. No other consent statement should be used. Each research subject must be provided with a copy or a way to access the consent statement.
2. Any modifications to the approved protocol must be submitted, reviewed, and approved by the IRB before modifications are incorporated in the study.
3. All recruiting tools must be submitted and approved by the IRB prior to use.
4. In addition, serious adverse events must be reported to the IRB immediately, with a written report by the PI within 24 hours of the PI becoming aware of the event. Serious adverse events are (1) death of a research participant, or (2) serious injury to a research participant.
5. All other non-serious unanticipated problems should be reported to the IRB within 2 weeks of the first awareness of the problem by the PI. Prompt reporting is important, as unanticipated problems often require some modification of study procedures, protocols, and/or informed consent processes. Such modifications require the review and approval of the IRB.
6. A few months before the expiration date, you will receive a prompt from IRB to renew this protocol. There will be two reminders. Please complete the form in a timely manner to ensure that there is no lapse in the study approval. Please refer to the IRB website for more information.

Instructions to access approved documents, submit modifications, report complaints, and adverse events can be found on the IRB website under IRB guidance.
Memorandum

To: Jason McDonald  
Department: BYU - EDUC - Instructional Psychology & Technology  
From: Sawdee Ana, MPA, IRBPP Associate Director  
Wayne Larsen, MAcc, IRB Administrator  
Rob Ridge, Ph.D., IRB Chair  
Date: June 16, 2022  
IRB#: X2021-167  
Title: A Qualitative Study of Localizing OCR Resources

Brigham Young University IRB approved the continuation of the research study referenced in the subject heading. All conditions for continued approval during the prior approval period remain in effect. These include, but are not necessarily limited to the following requirements:

1. A copy of the consent forms is found in the study management folder in IRIS. No other forms should be used. Each research subject must sign the form prior to initiation of any protocol procedures. In addition, each subject must be given a copy of the signed consent form unless the documentation of consent was waived by the IRB.

2. Any modifications to the approved protocol must be submitted, reviewed, and approved by the IRB before modifications are incorporated in the study.

3. In addition, serious adverse events must be reported to the IRB immediately, with a written report by the PI within 24 hours of the PI’s becoming aware of the event. Serious adverse events are (1) death of a research participant, or (2) serious injury to a research participant.

4. All other non-serious unanticipated problems should be reported to the IRB within 2 weeks of the first awareness of the problem by the PI. Prompt reporting is important, as unanticipated problems often require some modification of study procedures, protocols, or informed consent processes. Such modifications require the review and approval of the IRB.

Instructions to access approved documents, submit modifications, report complaints and adverse events can be found on the IRB website under IRIS guidance:
https://orca.byu.edu/IRB/ArticulateStudyManagementStore.html

A few months before the expiration date, you will receive a prompt from IRIS to review this protocol. There will be two reminders. Please complete the form in a timely manner to ensure that there is no lapse in the study approval. Please refer to the IRB website for more information.
APPENDIX B

Interview Questions

Facilitator Interview Questions:

(This will be a semi-structured interview, so the researcher will conduct the interviews and ask unspecified follow-up questions in line with the research purposes.)

Interview #1:

Thank you for being willing to speak with me today. This interview will take about 45 minutes. If at any time, you would like me to skip a question or pause the interview, let me know, and we can do that. Also, your answers here will be kept confidential. Your stories may be used in research publications, but your name would not be attached to them. I will follow up with you after this interview to make sure I am getting your words and intentions correct. Ready to begin?

1. What is your age?

2. Educational background?

3. Where are you from?

4. What is your general work background?

5. How did you become a community hub facilitator?
   a. What training did you receive?
   b. How long have you been a facilitator?

6. What course did you take?
7. What did you like? Not like?

8. How much time did the course take?
   a. 1 hour
   b. 2–3 hours
   c. 4–5 hours
   d. Over 5 hour

9. What are the main needs you see in your community and how does the community hub meet these needs?

10. What do you do on a normal day as a course facilitator?
    a. Tell me about the tools you use.
    b. How many students do you work with?
    c. What kinds of content do they use?
    d. How have your activities changed over time?
    e. What was your best day so far?
    f. What was your worst day so far?

11. What challenges do you face as a facilitator?

12. What, if anything, is being done to address these challenges?

13. What did you learn that you will use after the course is over?

14. Did the course use the best language for you? (yes/no)

15. Was the course easy to understand?
16. Did the course seem like it was made for your community?

17. How would you change the course to better fit your needs?

18. Were you able to share materials with others?

19. What other materials would you like to have on the server?

20. Looking back, what was happening with youth in your area before the community hub programs started? Tell me about specific changes you have seen.

21. If you were in charge of redesigning the manual or the class, what would you do?

**Interview #2:**

Thank you for being willing to speak with me today. Just like last time, this interview will take about 45 minutes. If at any time, you would like me to skip a question or pause the interview, let me know, and we can do that. Also, your answers here will be kept confidential. Your stories may be used in research publications, but your name would not be attached to them. I will follow up with you after this interview to make sure I am getting your words and intentions correct. Ready to begin?

1. Last time you said __________________. Give me an update. Has anything changed? (This question might address several issues from the previous interview.)

2. What challenges do you face as a facilitator that are ongoing?
   
a. What, if anything, is being done to address these challenges?

3. Tell me about a specific educational resource you found useful. What did you like about it?
a. Tell me about a specific educational resource that was not useful. Why?

4. The communities using mobile hotspot servers are in W. Africa, but the servers come pre-loaded from the U.S. How would you change about the content to better fit your community?

5. In what ways have you been tailoring the content to fit your students?
   a. Have you translated materials? Could you please give me an example?
   b. Have you supplemented them with you own materials? Could you please give me an example?
   c. Have you added anything to the server? Could you please give me an example?
   d. What else have you done to adjust content?
   e. Are there any changes you would like to make that you HAVEN’T made? Why?

6. What challenges have you faced with tailoring content to fit your students’ needs?

7. What have you learned through your work as a facilitator? What type of supports are helping you?
APPENDIX C

RELIGION

PRINCIPLE:

We all have the right to our own thoughts or beliefs or religion, and to teach or practice or worship as we wish, or to change our religion or belief if we want to do that.

WELCOME ACTIVITY: Begin the class with a song or activity that will help students get to know each other.

Show this picture to the class and connect it to the video.

DISCOVER:

Watch a video about different religion in different religious belief (Muslims, Christians, Traditional etc.)

This film is shared with permission and is not to be used for commercial purposes.

5 children, 5 religions, 5 prayers. The Mercadantes (2015). In this short film, it shows us how five children with different religions pray every day. You see children from around the world, carefully pull on their best clothes and get ready to go to their houses of worship. They have different religions (Muslim, Jewish, Hindu, Buddhist and Christian), but when they pray, they look quite similar. It’s a beautiful piece of art about spiritual reflection.

https://edtechbooks.org/PEZz
QUESTIONS:

- What did you see in the video?
- How did you feel about the other religion?
- What is the different religion in your community?
- How do you intend to relate with them after watching the videos?
- Any experiences to be shared?

EMPHASIZE:

- We all have the right to believe what we want to believe.
- People can express their religion freely through teaching, practice, worship and observance.
- People are free to change their beliefs.
- We can respect other religion while practicing our own.

ACTIVITY:

Face to face and zoom activity: You ask two people from different religious backgrounds to offer a prayer.

PLAN AND ACT:

What will you do this week to show your respect for other religions?

REFLECT:

Share how you felt at the end of the week with your class.

---

End-of-Chapter Survey

**Overall Quality:** How would you rate the overall quality of this chapter?

- [ ] Very Low Quality
- [ ] Low Quality
- [ ] Moderate Quality
- [ ] High Quality
- [ ] Very High Quality

**Additional Comments**

Please enter any additional comments here

Comments will be automatically submitted when you navigate away from the page.
APPENDIX D

**PRINCIPLE**

Definition: We all have the right to our own thoughts or beliefs or religion, and to teach or practice or worship as we wish, or to change our religion or belief if we want to do that (UDHR 18, CRC 15).

---

**WELCOME**

5 minutes

- Use the welcome time to get to know each other and have fun as a class.

---

**DISCOVER**

25 minutes

**WATCH THE FILM, "5 PRAYERS" BY MERCADENTES**

This film is shared with permission.


---

**ASK QUESTIONS ABOUT THE IMAGE**

- What did you see in this video?
- How did each child express their religion differently?
- Why did the music stop at one point?
- How did this video make you feel?
- What different religions exist in your community?
- How do you express YOUR religion?
- We all have different religious beliefs. How have people of other faiths treated you? How did it make you feel? Was there a time you were not able to express your beliefs?
- How can you respect others' beliefs while practicing your own?

---

Go to table of contents
RELIGION

- What conflicts have you seen over religion in our families and communities? How could respecting others' beliefs help resolve conflicts?
- What if people change their beliefs? Is that wrong? How can we still support them?
- How does respecting others' religions make our lives better?

EMPHASIZE THESE MAIN POINTS
- All people have the right to believe as they wish. (UDHR 18, ICCPR 18)
- People can express their religion freely through teaching, practice, worship, and observance. (ICCPR 18)
- People are free to change their beliefs. (UDHR 18)
- We can respect other religions while practicing our own.

SHARE SONGS OF WORSHIP
- Teach each other songs that are meaningful to you. Join together in singing songs that express religious beliefs.
- If there are people from different religions, let multiple people share songs.
- Ask, “Why is this song special to you?”

MAKE INDIVIDUAL GOALS
- What can you do this week to show respect for different beliefs and religions in your family or community?

RELIGION

REVIEW AND TEACHING THE PRINCIPLE
- What did you learn today?
- How have you changed or how would you like to change based on what you have learned?
- What would you want to share with your friends, family, and other community members based on what you learned?
APPENDIX E

Letter From Dr. Olivia Kwapong From the University of Ghana

Approving Research in Ghana

To Whom It May Concern,

I write in support of the study by Dr. Jason McDonald and Emily Bradshaw. I have looked at the research proposal on OER Localization from, and am confident that their project protocols are within the guidelines for research in Ghana. The research project follows the standards of the Belmont Convention, which we also follow. Specifically, this research involves collection of user data, survey responses, interviews, and data collected from a Whatsapp group. The research protocols proposed meet standards for research in Ghana in these ways:

(1) In order to collect user data, researchers in Ghana must get consent from users or have consent waived if risk is minimal. This standard is met by the research team as they are using a consent screen that allows users to click, "ok" and receive assurance that their data will remain confidential.

(2) For survey responses, researchers in Ghana must receive informed consent from participants and parent permission and participant assent from minors. I have reviewed the forms researchers will be using, and they are appropriate for the subject group and provide all necessary information.

(3) For interviews and Whatsapp messages, identities should be protected by removing personal identifiers from all written and recorded responses. The researchers have demonstrated that they will meet these regulations.

(4) In terms of protecting personal information and data storage in Ghana, researchers take steps to keep personal information confidential and store data in a secure manner. Researchers have demonstrated they are taking steps to ensure confidentiality and store data in a secure password-protected Box account.

This research project imposes minimal risk. Under all the above stipulations, I am also comfortable offering any kind of support necessary to Dr. McDonald and Emily Bradshaw from this end. I am confident that this project meets the standards for research with human subjects in Ghana.

Do not hesitate to get in touch with me in case you need some additional details.

Thank you.

Yours faithfully,

Prof. Olivia A. T. Frimpong Kwapong (PhD)
Dean

SCHOOL OF CONTINUING AND DISTANCE EDUCATION
COLLEGE OF EDUCATION

UNIVERSITY OF GHANA

June 28, 2021