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Designing MOOCs in South America towards open and equitable education

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ABSTRACT

This study utilizes a qualitative research design to investigate the design experiences of massive open online courses (MOOCs) instructors in South American academic institutions. It reveals that MOOC instructors are primarily motivated to teach MOOCs from their desire to make contributions to society (e.g., providing free and accessible MOOCs on emerging topics and demanding subjects) and experience innovative teaching and learning, as well as respond to their institutions' call for MOOCs. These courses are designed to reach audiences who face linguistic, financial, and geographical disadvantages within South American regions. The findings of this study inform the need to develop more non-English MOOCs in a variety range of subject areas to provide access to a broader population and promote educational equity. This study further addresses the ambiguity of the relationship between OER and MOOCs. The findings indicate that though MOOC instructors in South America have not yet fully perceived the benefits of OER, many of them have successfully integrated OER into their MOOCs to make them more accessible.

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Introduction

Massive open online courses (MOOCs) as a comparatively recent format of online educational courses have brought greater openness and accessibility to higher education for a large number of learners worldwide (Yuan & Powell, 2013). Distinct from traditional classroom learning, MOOC learning dynamics entail unique roles and responsibilities for both educators and learners (Zhu et al., 2020a). While a vast array of existing MOOC research has focused on students' learning, limited research has been conducted with instructors. However, recent studies indicated that designing MOOCs is challenging for instructors because of MOOCs' massiveness and openness where thousands of learners from different cultural, linguistic, and educational

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backgrounds enroll in one class rather than a homogenous group of students (Buhl et al., 2018; Deng et al., 2019; Evans & Gall Myrick, 2015; Sari et al., 2020). To provide more insights on these challenges as well as coinciding opportunities, this research seeks to explore the design experiences of MOOC instructors within academic institutions in South America. Moreover, among literatures about MOOCs in Global South areas, such as South America, the influence of open educational resources (OER) has been commonly discussed (as seen in Hodgkinson-Williams, 2014; King et al., 2018). Therefore, while the present study explores instructors' motivations for engaging in MOOC development, the challenges they confront, and the opportunities they mention, it also seeks to address the relationship between OER and MOOCs.

Literature review

MOOCs in South America

MOOCs are becoming a global phenomenon that enhances and extends learning for everyone (Hollands & Tirthali, 2014; Literat, 2015; Young, 2018). While the general belief suggests that people in the Global South, where economic challenges may persist due to the colonial period, may benefit from low-cost MOOCs, the nature of MOOCs often reflects colonial influences and even contributes to inequalities (Morgan, 2023). More specifically, it is common to encounter hegemonic design biases in the development of MOOCs, primarily stemming from a lack of consideration for linguistic, cultural, and socioeconomic factors within the MOOC learning context (Meaney, 2018; Pollack Ichou, 2018). These biases often result from an oversight or insensitivity to the diverse backgrounds and needs of MOOC participants, ultimately limiting the inclusivity and effectiveness of these courses.

Recent research indicated that MOOCs developed by Western universities often strongly embrace Western-centric epistemologies, thereby diminishing global relevance (Adam, 2019; Spiegel et al., 2017). This disregard for the complexity and diversity of local knowledge systems increases the digital divide based on historical inequalities and evolving coloniality (Adam, 2019). Despite the commitment of MOOC platforms to foster democratized access to "global" knowledge for all, it appears that individuals with access are predominantly characterized by privileged, educated, white males (Cottom, 2015; Glass et al., 2016; Houston, 2020). Adam (2019) argued that educators and instructional designers in Global South countries were restricted to participate in MOOC production on major MOOC platforms due to the commodification of education (e.g., platform partnering fee requirement) and digital neocolonialism (e.g., hegemonic powers utilizing information technology and the internet to wield influence over marginalized groups). Nevertheless, it is critical to emphasize the necessity of including diverse MOOC designers from various cultures and epistemologies to reflect a diversity of values (Adam, 2020). Therefore, if MOOCs are mainly designed by prestigious universities in the Global North, the course content and teaching styles carried by these universities typically exclude the learning needs of learners in the Global South, resulting in hegemonic design of learning (Meaney, 2023). Unfortunately, regions where MOOCs could be effective for learning often do not offer them

(Malaquias & Junior, 2020). Hence, investigating MOOC designers' teaching motivations and challenges will provide valuable insights.

In fact, various studies have indicated that MOOCs are primarily offered by English-speaking instructors and predominately taught in English (Adams et al., 2019; Stratton & Grace, 2016). Unfortunately, these language limitations make English a prerequisite to access MOOCs and bring language-related as well as cultural challenges to non-English speaking learners (Finardi & Tyler, 2015). For example, Uchidiuno et al. (2018) found that non-native English learners in MOOCs interact with class materials (i.e., videos) differently from native English speakers. Non-native English learners tend to reduce the speech rate of the videos to listen at a slower pace. In addition, many studies suggested that MOOCs that originated in the Global North have limited capacities to adapt to the needs of diverse learners in the Global South (Castillo et al., 2015; Pollack Ichou, 2018; Zhang et al., 2019). Therefore, MOOC research conducted in a broad geographic area may contribute diverse perspectives to a better understanding of the MOOC phenomenon (Veletsianos & Shepherdson, 2016).

There are limited studies conducted in the Latin America or South America regions. More specifically, Veletsianos and Shepherdson (2016) systematic analysis of 183 MOOC empirical studies published between 2013 and 2015 reported that South America had produced the least MOOC research literature, representing just 0.5% of the literature. Furthermore, Sánchez and Reyes-Rojas (2020) specifically investigated the trends and issues of the MOOC phenomenon in Latin America. A total of just 24 documents (e.g., articles, book chapters, and conference papers) in either Spanish or English that were published between 2014 and 2019 were analyzed. Those documents covered MOOCs in 12 Latin American countries, such as Argentina, Brazil, Chile, Columbia, and Mexico. Interestingly, they discovered that research on MOOCs in Latin America tended to concentrate on topics like gamification, cloud-based tools, learning analytics, and the development of predictive profiles to reduce the dropout rate in MOOCs. Importantly, Sánchez and Reyes-Rojas (2020) indicated that MOOC initiatives in Latin America were largely promoted and funded by European Unions, which might be a critical context for researchers to consider when investigating instructors' motivations and challenges.

MOOCs instructors: motivations and challenges

In a systematic review of 541 empirical MOOC research published between 2009 and 2019, Zhu et al. (2020b) reported that existing studies had predominantly centered around students ($n=300$), followed by design-focused ($n=156$), and context and impact-focused ($n=51$); conversely, a relatively smaller number of studies ($n=37$) were centered around instructors. Moreover, within student-focused studies, topics of instructional design, retention and completion, learner experience, engagement, and social learning were the most frequently researched areas. Notably, instructional design ranks as the second most extensively investigated area. Given such data, there appears to be a unique opportunity to explore the experiences of MOOC instructors in terms of MOOC design and development.

While the majority of MOOC research to date has extensively investigated students' MOOC learning (as seen in Alamri, 2022; Hew et al., 2018; Littlejohn et al., 2016; Sun

et al., 2019), emerging studies have indicated that instructors face various challenges (e.g., pedagogical, technical, and motivational) in designing and teaching MOOCs (Deng et al., 2019; Evans & Gall Myrick, 2015; Sari et al., 2020; Zhu et al., 2020b). Several instructor-related studies have explored instructors' motivations and challenges for offering MOOCs. For example, Hew and Cheung (2014) applied a constant-comparative method to review the literature on the motivations and challenges of using MOOCs for both students and instructors. Findings suggested that there were three main motivational factors for instructors to offer MOOCs, namely, (a) a sense of intrigue to experience teaching and connect to a diverse learner population, (b) altruism, and (c) egoistic motives (e.g., gaining personal reputation). The Hew and Cheung (2014) study also summarized that the major challenges of teaching MOOCs are: (a) insufficient student engagement observed within the online discussion, (b) a sense of conveying information without reciprocation due to the lack of immediate student feedback, (c) time and cost constraints, and (d) difficulty in evaluating student work. Lowenthal et al. (2018) surveyed 186 instructors and interviewed 15 of them from two major MOOC platforms (i.e., Coursera and edX). Their study revealed that three major motivations to teach MOOCs were: (a) interest and passion that is highly intrinsic (e.g., interest in the format of MOOCs, ability to share knowledge that they are passionate about), (b) publicity and marketing (e.g., branding, pressure from institutions or departments), and (c) benefits and incentives (e.g., conduct research, financial incentives). This study further implied that the need for support is vital, which, unfortunately, is not consistently accessible for MOOC instructors.

Recent studies conducted with MOOC instructors in certain countries or regions showed some variations in their motivations to teach MOOCs. For instance, Goel et al. (2023) investigated motivational factors of 25 Indian-origin MOOC instructors, indicating that professional growth (e.g., expanding professional network, creating opportunities for collaborations, publicizing courses or books, etc.) is the most significant motivator, followed by personal development motivator (e.g., passion for education, improve knowledge and confidence, etc.). Institutional reasons (e.g., expectations from institutions) were also reported as one motivator to teach MOOCs. However, Sari et al. (2020) study with instructors from Indonesian and Malaysian institutions displayed some differences in findings. Among the 42 survey participants, 32 of them (74.4%) reported their motivation as to increase learners' access to education, followed by contributing to human development ($n=26$), institutional encouragement ($n=26$), experience teaching and connecting to a large online course ($n=24$), personal interest ($n=15$), and research purpose ($n=7$). Additionally, major challenges reported by instructors in this study include engaging participants learning ($n=25$), encouraging collaborations between learners ($n=24$), developing video content ($n=22$), time constraints ($n=22$), assessing learning ($n=18$), and maintaining learners' interactions ($n=18$), which largely overlaps with Hew and Cheung (2014) summary of early research on the challenges in teaching MOOCs.

Najafi et al. (2015) also reported the primary motivations of eight MOOC instructors from the University of Toronto including broadening public access to high-quality education. In particular, these instructors were motivated to contribute to open educational resources (OER), showcase institutional teaching practice, and bridge

concepts and applications. Obviously, the findings from these studies suggest that there might be a regional and cultural influence on MOOC instructors' motivation to offer MOOCs and the many challenges that they faced. To attempt to reveal and explain such variations, additional studies on motivation should be conducted from instructors' perspectives.

MOOCs and OER

Growing research interests have investigated the relationship between MOOCs and open educational resources (OER). Stracke et al. (2019a) brought up the critical debate on whether MOOCs are considered as OER. They claimed that this question holds significance as it addresses the differentiation between viewing open education in terms of open content and viewing it as an open and innovative pedagogy.

OER has a long history and is commonly defined as resources for teaching, learning, and research that exist within the public domain or with intellectual property licenses that are free to retain, reuse, revise, remix, and redistribute by others (Wiley & Hilton III, 2018; William and Flora Hewlett Foundation, 2019). OER has a wide range of formats, such as textbooks, videos, images, music, and writings (Butcher, 2015). Stracke et al. (2019b) suggested that some popular categorizations of OER were highly based on the legal or operational dimensions (e.g., Tuomi, 2013), which neglects the importance of open recognition, methodologies, and innovations.

By reviewing the history and typologies of MOOCs and OER, Stracke et al. (2019a) suggested that the relationship between MOOCs and OER is not static. Specifically, from an open resources perspective, many MOOCs neither support reuse and adaptation of content nor support innovation in learning experiences; therefore, many MOOCs are not OER. However, when assuming an open learning innovation perspective, MOOCs are regarded as a learning opportunity and environment that supports self-directed and collaborative learning rather than just an online learning resource; in effect, MOOCs extend beyond OER. Interestingly, Czerniewicz et al. (2017) discovered that MOOC educators rarely expressed an intention or perceived importance to create OER, which was possibly caused by a lack of awareness of the OER concept or knowledge regarding licensing norms. They further suggested a possible connection between the purpose of MOOCs and educators' willingness to release MOOC materials as OER. A similar study by Ebner et al. (2017) claimed that MOOCs are more effective for learning when local teachers reuse and remix the content in alignment with their local situations and cultural norms. Integrating OER in MOOCs or hosting MOOCs on OER platforms greatly changes the types and formats of learner engagement that are available for MOOC instructors and course designers.

While the joint utilization of MOOCs and OER in the Global South is often discussed together in many studies (as seen in Hodgkinson-Williams, 2014; King et al., 2018; Zhang et al., 2019), there is still ambiguity about the connections between MOOCs and OER as indicated by Stracke et al. (2019a). These discussions and research reports inform this study to examine instructors' perceptions of the differences between MOOCs and OER and possibly their utilization of OER in MOOCs.

Methods

Study design

While a significantly large number of studies were based on easily obtainable descriptive quantitative survey data, there is an urgent need for in-depth qualitative research on MOOCs in South America (Sánchez & Reyes-Rojas, 2020; Veletsianos & Shepherdson, 2016; Zhu et al., 2018). The present study seeks to fill the research gap of the MOOC phenomenon in South America via a qualitative method design, collecting rich interview data with 11 MOOC instructors from South American institutes. We proposed the following research questions:

1. What motivational factors drive instructors' decision to provide MOOCs?
2. What challenges do educators face during the process of MOOC design?
3. How do instructors perceive the relationship and integration of OER within MOOCs?

Data collection

As a part of an extensive research study exploring MOOC design experience of instructors from South American institutes, a bilingual survey in English and Spanish was emailed to 366 MOOC instructors affiliated with South American institutes to collect instructors' demographic information, course information, motivations to offer MOOCs, prior design experiences, and invited them for in-depth interviews regarding their MOOC design experience.

At the end of the survey, we asked participants to indicate their interest to engage in interviews as well as inquire about their language proficiency in English, Spanish, and other language(s). After sending out emails to all 26 survey participants who indicated their interest in interviews, 11 participants responded and agreed to participate in the interview. Although we had created the Spanish version of the interview protocol, which was translated by a native Spanish speaker and revised by two native Spanish speaking graduate students in education and a faculty member who is proficient in Spanish, all the interviewees indicated their English proficiency is above intermediate. Therefore, to keep consistency in the interview, we conducted all 11 interviews in English.

Interview questions were semi-structured, covering topics on instructors' teaching experiences, motivations to teach MOOCs, institutional information and support, design experiences with MOOC platforms, challenges faced, and the impact of teaching MOOCs. All interviews were conducted through Zoom, an online video conferencing tool. Each interview was about 45 minutes long. By participating in interviews, each participant obtained a \$30 (in US dollars) Amazon gift card as incentives. Interviewee information is detailed in [Table 1](#).

Participants

As indicated in [Table 1](#), by convenient sampling, we eventually recruited 11 interviewees from Colombia (55%), Brazil (18%), Chile (18%), and Argentina (9%). They teach a variety of subjects through Coursera and edX.

Table 1. Demographic information of interviewees.

Pseudonym Name	Gender	Country	Platform of MOOCs	Subject Areas	# of MOOCs Taught	Primary Language of their MOOCs
Alejandro	Male	Colombia	edX	Economics & finance	1	Spanish
Bruno	Male	Argentina	Coursera	Business	more than 5	Spanish
Christopher	Male	Colombia	Coursera	Data science	2	Spanish
Daniela	Female	Colombia	edX	Psychology	1	Spanish
Echa	Female	Colombia	Coursera	Personal development	2	Spanish, Portuguese
Felipe	Male	Brazil	Coursera	Data science	1	Portuguese
Gavino	Male	Colombia	edX	Art & culture	2	Spanish
Hernán	Male	Brazil	Coursera	Computer science	4	Portuguese
Ignacio	Male	Colombia	edX	Business, management & leadership	1	Spanish
Jorge	Male	Chile	Coursera	Computer science	3	Spanish
Keiman	Male	Chile	Coursera	Business	1	Spanish

Data analysis

Two researchers on our team listened to the recordings and made the necessary corrections to help ensure the accuracy of the data. After first-level member checking, thematic analysis (Braun & Clarke, 2012) was performed to analyze the interview data.

Two researchers independently conducted coding on identical sets of two interview transcripts. Next, they compared the codes and patterns, and openly discussed existing differences and disagreements until a consensus was reached. After agreeing on themes and coding, we developed the codebook. One researcher independently re-coded the same transcripts based on the agreed-upon codebook, while the other researchers checked the codes to ensure consistency and reliability in the coding process. Researchers together developed and refined themes. Then, one researcher continued to code the rest of the transcripts to increase the consistency in coding.

Findings

Make contributions to society

Nine of 11 interviewees claimed that their primary motivation to teach MOOCs was making contributions to society. Some of the interviewees wanted to share new knowledge in emerging subjects with learners through MOOCs to help educate people in society. For example, Alejandro explained, “let’s say my region, like we’re always late when it comes to technology. I wanted the region to catch up and not be left behind in this revolution that we are giving.” Similarly, Jorge, a computer science professor from Chile, regarded MOOCs as an effective educational method for people who are disconnected from the higher education system or have limited resources and time to access knowledge. He claimed that,

I think MOOCs are tools to democratize knowledge, in particular, to give access to people that do not[sic] have the means for time or resources or age. Sometimes, it’s a very critical element to access to higher education.

Providing MOOCs, particularly for Spanish and Portuguese speakers in local communities, is a significant component to contribute to society, which was reported by five instructors. For example, Hernán said,

And in this particular case, my four courses are in Portuguese. There are about a quarter of a billion people in the world that speak Portuguese, and many of them don't speak English very well, and then don't have much educational material in the technology fields. So, when I create such in Portuguese, I'm giving opportunity for millions of people to get access to this information that they wouldn't have, because their English is not very good. So, my main motivation is to provide access to these people to this information.

Similarly, Jorge also shared his thoughts that he contributes to education in his country, neighboring regions, and even Spanish speakers worldwide by offering knowledge that was previously unavailable in Spanish. He also witnessed the transformative power of knowledge and how it shaped perspectives and innovations, which in turn contributed to his personal joy and sense of fulfilment. He acknowledged,

We now open up some opportunities for some new creations and, innovations and experiences for that people. I think that is what makes knowledge valuable when you see people join it, and making sense of the world in a different way. I'm very happy that this happened, but in particular, when [that] opens educational resources.

Felipe, a data science professor from Brazil, intentionally made his MOOCs in Portuguese because science education has been vastly outweighed by English MOOCs. Though students may find MOOCs with Spanish subtitles, local faculty teaching MOOCs in Portuguese offer a unique connection, including cultural nuances and familiarity that automatic translation cannot replicate, which ultimately enhances the learning experience. Felipe explained,

Even though there is automatic captioning or automatic translation and tools like that, it's different when you take translated content or content that was developed in your native language by someone who looks like you and knows your cultural background, the way you move, the way you speak. And now some students gave me feedback over the past two years about that, and say, I feel more comfortable taking a course with someone who looks like me, who has dark skin like me, and things like that, and who comes from where I come from. Yeah, it's a mixture of language and culture, ethnicity, and things like that.

Experience in innovative teaching and learning

One major motivational factor driving instructors to engage in teaching MOOCs is the eagerness to experience innovative teaching and learning through teaching MOOCs. Survey data validated this finding, as the most reported motivation was experiencing innovative teaching and learning, as indicated by 26 out of 37 respondents (70.3%). For example, Keiman said, "I basically did it because I said, hey, this is a cool platform. This is something different. I'm an innovation scholar. So if I teach innovation, why shouldn't I innovate also in terms of my teaching methodologies, right?"

Interview data also indicated that prior learning experience with MOOCs contribute to instructor interest to experience teaching with MOOCs. For example, Felipe noted that he was an introverted person who preferred to learn by himself instead of attending in-person classes when he was a student. As a result, when he became a

professor, he consistently searched for alternative ways of teaching. Simply put, MOOCs are one of the innovative teaching and learning tools that Felipe experimented with. As he observed,

I love to take MOOCs myself [because] I'm an introvert, I don't like [to be in a classroom] when I was a student. I love to learn new things, [but] I prefer not to be in a classroom... when I became a professor 11 years ago, I was always excited about trying to provide students with the same opportunity for introvert students or disabled students, who like to learn by themselves. I have always thought that they should have alternatives, and not only the traditional classroom in-person learning and things like that.

University's promotion with grants opportunities

Similar to our survey findings, where the second-highest ranked motivation is due to encouragement from the university, as reported by 56.8% of respondents, more than one-half of the interviewees (n=7) indicated that promotion within their university is also a critical motivation for them to teach a MOOC. Furthermore, interviews revealed the workflow related to how the universities call for MOOC development. For instance, Daniela from Colombia stated,

The university where I work started like a line of development, and they told the professors that this was like a place where to make the university more visible, with the possibility to reach other people that don't know about our work. So, the professors who were interested, could answer the call for professors, who want to make a MOOC. You have to fill out a form with the topic you would like to make a MOOC. I suppose they wanted to select the subjects that may be of interest to the general population. And if they approve your idea, they guide you through the planning and development of the MOOC.

Gavino, also from Colombia, as well as a few other instructors also indicated that such MOOC development and promotion is often made interdisciplinarily, while the university supervised the process and provided certain support. He observed,

The MOOC was produced by the university. So, they produce the whole video. We record it here, and we record it on the screen and teach Photoshop. And it was some kind of resources, lectures, or something like that. But it was mostly the videos where I was talking, and I was teaching that course... they [the university] asked me to do it. It was in the university, it was made by continuous education.

Three interviewees further explained that there were small funding opportunities associated with the MOOCs project promoted by the university. For example, Gavino commented that he was originally unsure about teaching a MOOC since he has never done that before. He admitted, "I was very worried because I never did something like that. So I was very afraid of that. So they have to convince me a little bit. They pay very well. So I said, okay." Another interviewee unfolds the funding source as well as university's role in promoting and developing MOOCs. Keiman, a business professor from Chile, astutely observed,

In particular, the School of Engineering that they had signed an agreement with Coursera. Out of that agreement, the school created a very small temporal grant for motivating professors to create courses in Spanish. So, Coursera wants to have more content in Spanish... The School of Engineering said, hey, this is the way of the future.

Other motivations

There are a few motivational factors mentioned by one or two interviewees, including the need for online or hybrid education, demands for certain subject knowledge, and instructors' interest in sharing knowledge. For example, Christopher, a data science professor from Colombia, pointed out that, "we want to offer a formal course or a formal graduate program, for example, for people in Colombia, but not in the main cities, where we have our campuses. For example, for the nurses in hospitals." Felipe even had a harder situation where he used to travel to different areas in South America to teach his subjects due to high demands. In effect, teaching introductory level content via MOOCs was a good solution for his situation. As Felipe stated,

I always had to travel to other cities to other states to teach this course on ecological networks. But the demand was much higher than my ability to offer this course. So, I thought that transforming it into a MOOC version would be the best way to help more students, so I wouldn't need to travel a lot to teach the course. So, now I have two versions of the same course. I have the in-person version, which is an advanced version, it's a post-graduate version; and I have the MOOC version, which is an introductory version.

Challenges in MOOCs design

Minimal training and support available

The challenges most reported by MOOC instructors (n=7) are the absence of available training and support. Felipe was not able to start teaching a MOOC when he worked for a different institution because the institution would not support such types of educational practices. Felipe spoke about his dilemma during the interviews, as follows, "I have been interested in MOOCs for a very long time, but I didn't have support in my former university."

In addition, though most of the academic institutions and MOOC platforms provided certain instructional or technical support (e.g., video recording technician), such support was not sufficient enough for most instructors who, in turn, had learn[ed] as they went, which is particularly difficult for instructors who are the MOOC pioneers in their institutions. For example, Bruno, a business professor from Argentina, explained,

At that moment because it [developing a MOOC] was the first experience [for the university]. So, it was like learning on the go. They provide me with a full department of innovation. So, we did everything in cooperation with them. They provide me with a studio for recording all the sessions. But all the guidelines were created after that experience because it was the first.

Even though some instructors we interviewed came from a background in the field of education, they realized that they needed more instructional design training and support to teach MOOCs. Echa, a professor of personal development from Colombia, argued that such support from an institutional level is very important. While she claimed that she had a structured team significantly supporting her MOOC design work, she indicated that more training was necessary while reflecting on her experience of designing MOOCs. As she observed,

Something very interesting about it is that I wish I could have received more training in instructional design, and I think I've learned it kind of like in the way. And one thing that I think is crucial is, how you write a learning objective and learning results. And I think I was very much conscious that I had not been a good objective writer until I did the MOOC, because you really have to assure that they are going to get this after they do the MOOC.

Keep content updated

Nearly half of the interviewees (n=5) indicated the significant challenge of maintaining up-to-date content while designing MOOCs. This challenge is particularly pronounced in fields of study where knowledge evolves rapidly, necessitating constant content updates. For example, Ignacio mentioned,

I want to change 90% of the contents of the reading, activities, evaluations, because it has been like 3, 4 years since we design it. So, a lot of things have [sic] changed. So, it's important to have the option to update it... [it] was a little bit difficult to contact them again, progress schedules, and budget. etc. So, I guess I think we are advancing in the process, and we hopefully, we can have everything to update it. So that's a challenge.

Echa expressed a similar concern. She further indicated that to keep content updated and adapt content for the new generation of audiences, it is crucial to motivate students in MOOC learning. She claimed that,

The third one, it is adapting your content to your new generation. [Because] the new generations that are going that's going to be the target audience. For example, as I was telling you earlier, I have to reevaluate many things in my MOOCs, because I know four years later many things have changed, especially the pandemics in between. So, I decided that many contents there, many activities, were not relevant for them anymore, and their attention and it's horrendously low. And so those things are also important in keeping them motivated.

Time consuming

Four of the other interviewees mentioned that the creation of MOOCs posed challenges due to substantial time requirements. Some instructors experienced difficulties primarily related to technology. For example, Bruno mentioned that feeling natural when speaking in front of the camera, accurately addressing class content from the script, and casting videos for MOOCs content are all time consuming. As he put it,

At the very first moment, it was very tough, because speaking to a camera in front of the camera, and being accurate, and be natural, and be fresh, and still saying everything I wrote down, or they wrote down on the script was very difficult, and so we had to move from a way of just trying to repeat what I trying to memorize or say by heart... I am not that good at memorizing all the things I wrote down; I prefer to be more natural. So, for the first video maybe for 5 min to cast 2 hours. But the other video took us probably 20 min because we started optimizing times and say this really directly, don't lose your time trying to memorize and be natural when you leave an example, be natural when you want to explain a concept or whatever.

This challenge is particularly vital while instructors have another normal faculty workload. Though Daniela believed in the value of MOOCs, she struggled with the time constraints with her daily faculty job. This time challenge even discouraged her from designing another MOOC in the future. She noted,

I think that's a good way to do [MOOCs], but it's too much work [because] the time we have at the university, we have a lot of things we have to answer, so sometimes it's very difficult to involve yourself in updating the MOOC or planning another one. I think if I knew all the time that I have to spend doing that MOOC that first time, I think I would say no.

Restrictions of the platforms

Three interviewees also reflected that the features and design of the MOOC platforms restricted them from implementing appropriate instructional design elements to motivate students. As Echa started exploring some Latin America based platforms and compared them with the major worldwide MOOC platforms, she observed,

[The Latin America based platforms] do it in a very different way from Coursera. Like everything from the design, the aesthetics of the platform, is attractive. And they do it in a gamified way as well, which Coursera doesn't have. I feel like Coursera kind of leaves you alone. But they're very good at instructional design, when you're at the basics; but when you want something that's really nice and an experience that you're like, okay, I feel part of the community, this platform doesn't have it.

Certain features within MOOC platform restrict instructors from having full control over the course design, thereby impeding their ability to craft more personalized learning experiences or provide timely feedback. For example, Bruno explained that peer evaluation is a critical component to motivate students' learning. However, peer evaluation does not work when there are not enough engaged students completing such tasks and instructors are not able to re-assign peers. As Bruno remarked,

There are some dynamics that in this case Coursera provides, which are interesting, such as a peer-to-peer evaluations which is very good. I mean it works, but not all the time, because I received many, many inquiries from students that I've been evaluated 3 times. I need 2 more, and I can't do anything because I am not at the platform... I cannot manage what happens to a specific student, and they expect me because they see my face. But this is a recording from 6 or 5 years ago I mean, I'm not exactly there. But peer-to-peer revisions, it's very effective.

Difficult to collaborate with other colleagues and staff

Some instructors mentioned they had difficulties when collaborating with other colleagues and staff for various reasons. For example, Daniela and Gavino faced the challenge in communicating their teaching styles and philosophy with other supporting staff. For example, Daniela said, "we just understand what they want, at the end, it was 'wow! I have no idea about how to offer our knowledge and experience to the learning process of others. I don't have the technological strategies to do this.' So it was really hard at the first time."

Ignacio brought another layer of collaboration difficulty. He pointed out that it was hard to keep MOOCs content consistent and not repetitive when co-creating MOOCs with other faculty. During the interview, Ignacio noted,

It was very difficult because we had six people from six different countries almost. Imagine that we have to write in the same style, with the same direction, with the same goals, using different examples so that we don't repeat the same examples and be more diverse, so it was a challenge because of the approach that we choose.

MOOCs and OER

Perceptions of OER and its difference from MOOCs

While about two-thirds of interviewees indicated their familiarity with or awareness of open educational resources (OER), their conceptualization of OER primarily revolves around unrestricted accessibility and the absence of expenses. For example, Bruno defined OER as “contents or resources that anyone can access anytime anywhere without paying anything.” Daniela speculated, “I think it is related to open access.”

Among MOOCs instructors who claimed they understood the concept of OER, half of them firmly considered MOOCs as OER, while the other half regarded MOOCs as a partial OER. For those who considered MOOCs as a partial OER, their major concern is that some MOOCs required payment for certificates. For example, Bruno said,

[MOOCs are] not absolutely [OER], because it depends on how the MOOC is created, or is conceived at the very first time. Many of them are really oriented to people paying for certificates. When you don't have money, or people who don't want to pay, it's not very easy to understand how to proceed without paying. I think that MOOC[s] is created by the nonprofit organization, NGOs, that are completely open, and it's open by the very first moment. But there are others that it's not very clear.

A similar answer was given by Echa. She stated that she does not consider MOOCs as OER because it asked people to pay for certificate. Echa argued, “if you don't want it, you can take the course for free. So, I think it's kind of like a partial OER, but they do charge for something. So, I think it's not entirely that.”

The integration of OER in MOOCs

Nine of the eleven interviewees gave examples of how they integrated OER in their MOOCs. The majority added copyright-free materials in their MOOCs because they believed students should not pay for such education and Coursera also required instructors to do so. For example, Felipe observed,

I have to follow Coursera policies. So, most of the resources that we use, they need to be open, because of copyright issues and distribution issues and things like that. So, I use a lot of open-access papers when I have to point students to scientific papers. And then I use a lot of open-access books, especially online books.

Moreover, some of the instructors created OER by themselves to allow students to freely reuse and remix materials provided and even avoid disputes of plagiarism. For

example, Echa created materials with creative common license for her two MOOCs because her team wanted her students to reuse and adapt these materials to their own practice. As she observed,

Our main activity is to train teachers who are in service and pre-service, so we wanted to have materials that teachers could use eventually in their classes, especially language teachers in this case, for intercultural development. So, let's say you're an English teacher or ESL teacher, and you want to use this activity, you can take it from our MOOC. Many of the things that I design have the creative commons license. So, I put the logo, the creative promises like you can do this, you can use it... And we kind of have this culture of just creating and sharing because it's important.

Keiman is another good example of creating one's own MOOC materials that serve as OER for students to freely access and redistribute. As he mentioned, it was even a great way to avoid future disputes of plagiarism of material. He outlined aspects of his course design process, as follows,

I ended up creating my own materials and some of the reading[s] I have to write by myself. The pictures mainly came from Wikipedia, because Wikipedia [has free] license. They taught us how to search in Google for license-free content or pictures. But for reading material, I prefer to create my own material just to avoid any future disputes of plagiarism of material of other people around.

Discussion

Though a couple of studies have provided evidence on MOOCs instructors' motivation to design and teach MOOCs, some of key findings in this study revealed different perspectives that are likely influenced by regional contexts. As many previous studies have indicated, one of the important reasons behind instructors' motivation to teach MOOCs is their commitment to open education with large and diverse audiences (Hew & Cheung, 2014; Lowenthal et al., 2018; Sari et al., 2020). In our study, the most frequently reported motivation by interviewees was contributing to society, particularly providing accessible and emerging knowledge to people who are Spanish or Portuguese speakers in South American countries. In effect, there is a demand for more non-English MOOCs, thereby corroborating the notion that linguistic and cultural distinctions can act as impediments preventing learners from fully engaging in MOOCs (Finardi & Tyler, 2015). This finding also reveals the significance of investigating MOOC design experiences of instructors from South America and potentially expanding this investigation to Global South regions, aiming to bridge the colonized digital divide and address inequitable learning opportunities. By understanding the specific motivations faced by instructors in South America and elsewhere, it informs the development and adaptation of MOOCs that should be considered to better resonate with the local context and needs.

It is vital to note that institutional encouragement of MOOC development has been discovered as a critical motivator for MOOCs instructors to teach in the previous research literature (Goel et al., 2023; Lowenthal et al., 2018) as well as the present study. Notably, our findings reveal more details on the process of how academic

institutions prompt and supervise MOOC development by providing funding, selecting proposals, and offering certain support. It emphasizes the necessity of institutional involvement in assisting instructors from the Global South in overcoming financial and technical issues in MOOCs design, as indicated in Adam (2019).

Additionally, our finding suggests that one of the significant challenges and obstacles for MOOC instructors from South American institutions is the absence of adequate training and support. At the same time, the interviewees indicated that institutional level support is critical for initiating and sustaining their engagement in MOOCs teaching. Importantly, this finding contributes valuable confirmatory information to the various technological and design challenges reported by previous studies (as seen in Hew & Cheung, 2014; Sari et al., 2020). It also provides another research direction to investigate the types of institutional support and resources that are helpful for instructors to develop MOOCs. In addition, it contains valuable insights for academic institutions, educational technology developers, and policymakers to develop job aids and training programs to help MOOCs instructors build their MOOCs.

Several significant challenges that emerged from our in-depth interviews remain relatively unexplored within the existing body of MOOC research. Notably, approximately half of the interviewees encountered difficulties in effectively updating the content of their MOOCs, especially for instructors teaching rapidly evolving and emerging subject matter. It also implies that MOOC teaching techniques and methods are not one-size-fits-all. It suggests future research should investigate unique challenges faced by instructors across various disciplines and explore strategies to effectively address these challenges.

Moreover, as the effectiveness of using both MOOCs and OER in Global South regions have been discussed in many literatures (Hodgkinson-Williams, 2014; King et al., 2018; Zhang et al., 2019), Stracke et al. (2019a) suggested there is still ambiguity of the connections between MOOCs and OER that need further investigation. To close this gap, we attempted to understand instructors' perceptions of OER and educational practices with OER. The findings suggest that most of the MOOCs instructors we interviewed heavily emphasized the unrestricted accessibility and no cost of OER. According to a study by Wiley and Hilton III (2018), only a few instructors are aware of the remix and revise concept of OER, neglecting the multifaceted potential benefits inherent in OER. Possibly, due to the ambiguity around the concept of OER, when asked the connection between MOOCs and OER, instructors' concerns were around the cost of certification. Paradoxically, despite this ambiguity, most of the MOOCs instructors reported evidence of integrating OER in their MOOCs. Their intentions to integrate OER were underpinned by the belief in education at no-cost and support of MOOC platforms policies that would make that happen. Notably, a subset of instructors even took the initiative to create their own OER, driven by the aspiration to provide students with reusable and adaptable materials, and with considerations pertaining to potential disputes over material plagiarism.

Overall, this study contributes to the less studied area of MOOC instructors' experience of designing MOOCs (Deng et al., 2019; Evans & Gall Myrick, 2015; Zhu et al., 2020b), particularly given that limited research has been conducted on the MOOC phenomenon in South America and other Global South regions (Sánchez & Reyes-Rojas, 2020; Veletsianos & Shepherdson, 2016). The study also offers insights into the intricate

connection between OER and MOOCs. While filling in the research gaps mentioned above, the study yields practical insights into the design and delivery of MOOCs that may encourage and guide institutions and MOOC platform providers in offering more effective support for the needs of MOOC instructors, potentially leading to the development of training programs to overcome the various challenges in MOOC development. Furthermore, this study makes clear the necessity to expand non-English MOOCs to advance educational equity. While educational technology keeps advancing, it is important for us to recognize the increased digital divide happening due to the pedagogical, technological, financial, and historical factors. Examining South American MOOC instructors' perspectives and available resources provides a far-reaching implication for designing more equitable educational environments and strategies. Accordingly, utilizing an inclusive MOOC design approach is necessary to bridge gaps and extend benefits to all.

Limitations

While this study provides significant meanings to research knowledge and practices, it has some limitations. For instance, given the number of countries in South America (i.e., 12), the interviewee sample size was relatively small (i.e., 11); thus, potentially limiting the generalizability of findings to the entirety of MOOCs instructors across South American regions. Future investigations should seek to reach a larger and more diverse sample, allowing for enhanced representativeness. Notably, each of the 11 interviewees were highly dedicated to the design of a high-quality MOOC experience; and many of them described highly creative pedagogical practices and experiments. Additional MOOC instructor interviews that focused on such innovative pedagogy would most assuredly prove highly valuable and enlightening, both in South America and beyond. Furthermore, a prospective study could consider comparing the perspectives of instructors from various disciplines, which would provide deeper insights into potential disciplinary variations in MOOC instructor experiences and motivations.

Our research scope was also limited to English-based MOOCs platforms, which may inadvertently exclude valuable viewpoints and experiences of instructors engaged in local South American MOOC platforms offered in Spanish and Portuguese. Future studies should consider including a wider array of MOOC platforms to capture a more comprehensive overview of MOOC landscape in South American regions. Furthermore, this study relies on self-reported data, which might contain biased information. Future studies should collect and analyze other data sources, such as document analyses of the MOOC courses and focus groups of participants from different MOOC platforms, as complementary methods to validate findings from the interviews.

Conclusions

In an era characterized by technological advancement and the proliferation of information systems, open education has emerged as a prevailing trend in the pursuit of higher education goals. Within this context, MOOCs and OER have taken center stage as either an open education innovation or resource, enabling a diverse global audience to access high-quality learning materials at no-cost and achieve lifelong learning. The

exploration of instructors' motivations and the challenges during the creation of MOOCs offers valuable insights into the practice of open pedagogy. This research not only enriches our understanding of how education operates in an open and online paradigm but also equips educational institutions and instructors with the knowledge to better prepare and facilitate students' learning experiences in the contemporary world.

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No potential conflict of interest was reported by the author(s).

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Data availability statement

Data not available due to ethical and legal restrictions. Due to the nature of this research, participants of this study did not agree for their data to be shared publicly; as a result, supporting data is not available.

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