

Language MOOCs for Refugee Learners: Opportunities, Barriers and Design Principles

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Abstract

Global migration and the dispersal of language learners across the globe have led educators and researchers to investigate Massive Open Online Courses (MOOCs) as scalable educational solutions. This paper examines Language MOOCs (LMOOCs) as tools for language learning among refugees who are unable to participate in face-to-face language classes. By drawing on existing literature and my experiences in developing online English courses for Somali-background refugees, I identify both opportunities and challenges in the design and implementation of LMOOCs for refugee learners. Furthermore, I delineate key design principles aimed at enhancing the accessibility and inclusivity of LMOOCs for refugees, who represent a diverse yet marginalized learner group in language education. The findings highlight the significance of offline viewing options, mobile-supported courses, culturally relevant content, mixed pedagogical approaches, and the integration of multimodal and multilingual support to improve LMOOCs and online language courses for this learner group. Additionally, the involvement of refugee learners as co-designers is emphasized as crucial for achieving inclusive and accessible course designs. The paper concludes with a summary of the principles and suggestions for future research on LMOOCs.

Keywords: Massive Open Online Courses (MOOCs), Language Massive Open Online Courses (LMOOCs), refugees, language learning, accessibility, inclusion

Massive Open Online Courses (MOOCs) have become widely used tools for delivering educational content and activities globally. A specialized subset of these courses, termed Language MOOCs (LMOOCs), is specifically designed to facilitate the acquisition of second and foreign languages. LMOOCs are defined as “dedicated web-based online courses for language learning with unrestricted access and potentially unlimited participation” (Martín-Monje & Bárcena, 2015, p. 1), and having experienced significant growth in recent years (Shah, 2020), these courses have captured the interest of language educators, researchers, instructional designers, and learners. Given their recent proliferation, there is a need to further explore the advantages and challenges associated with LMOOCs as tools for language education in different settings.

LMOOCs present several benefits and limitations in the context of language teaching and learning. Most LMOOCs are self-paced (Barcena et al., 2020), readily accessible online (Godwin-Jones, 2014), and offered either free of charge or at a minimal cost (Stevens, 2013). These courses typically consist of time-efficient, targeted modules aimed at enhancing specific language skills such as reading, writing, and speaking (Zhang & Sun, 2023). Their global reach

also means that they can facilitate intercultural learning opportunities that may not be feasible in traditional classroom environments (Castrillo and Sedano 2021; Luo and Ye 2021). At the same time, LMOOCs also pose certain challenges, as identified by recent scholarship. For example, student engagement and completion rates in these courses are often low (Friðriksdóttir, 2021; Jitpaisarnwattana et al., 2019), and the majority of LMOOCs adhere to behaviorist or instructivist rather than socio-constructivist or connectivist models of learning (Chong et al., 2024; Gilliland et al., 2018). This raises questions regarding the efficacy of LMOOCs as language learning tools, particularly in terms of their ability to address the diverse needs of language learners.

The growing prevalence of LMOOCs highlights the need to address the accessibility and inclusivity of these courses for different participants. This encompasses learners in low-resource environments with limited or no access to formal language education, such as refugees. Refugees, in particular, encounter significant challenges in accessing second or foreign language education, underscoring the necessity for their varied cultural, educational, and linguistic backgrounds to be integrated into online learning designs to facilitate language learning. Although MOOCs were originally developed to expand educational access for underprivileged students, including refugees (Kennedy & Laurillard, 2019), the majority of participants remain well-educated adult learners from Western regions (Cagiltay et al., 2024; Halkic & Arnold, 2019), raising questions about the accessibility and inclusivity of LMOOCs for other populations. Therefore, to inform language educators, researchers, and instructional designers, many of whom work with refugee populations, deeper reflections on the advantages and limitations of LMOOCs for diverse refugees is essential.

The research questions that I address in this study are: “*What are the benefits and drawbacks of LMOOCs in the context of language education for refugee populations? How can LMOOCs be made more accessible and inclusive for refugees?*” To answer these questions, I first provide background information on MOOCs, LMOOCs, refugee learners, and accessible and inclusive online language education to reflect current thinking. Second, I discuss my experiences in designing online language courses for Somali-background refugees, integrating these experiences with evidence from the literature on inclusive and accessible LMOOC designs. Third, I analyze the findings and propose design principles that can enhance current LMOOCs and online courses. Finally, I conclude the paper with a summary of key insights, including recommendations for future research.

Background

The Global Evolution of MOOCs, including LMOOCs

MOOCs are massive, open, online courses (Jitpaisarnwattana et al., 2019). As online tools for learning, they are becoming increasingly popular, especially among highly educated adults who have grown up on the Internet. Although the term 'MOOC' is attributed to Dave Cormier, who first used it in 2008 to describe online courses based on connectivist learning theories, similar online courses existed under different nomenclatures prior to that point (Stevens, 2013).

MOOCs can be hosted by local university-based platforms or global commercial providers. Today, some of the more prominent commercial MOOC platforms or providers include Canvas, Coursera, edX, FutureLearn, Khan Academy, Miriadax, Open HPI, Udacity, and Xuetang, which collectively offer over 150,000 courses to more than 220 million users worldwide, as illustrated in Figure 1 (edX, n.d.):

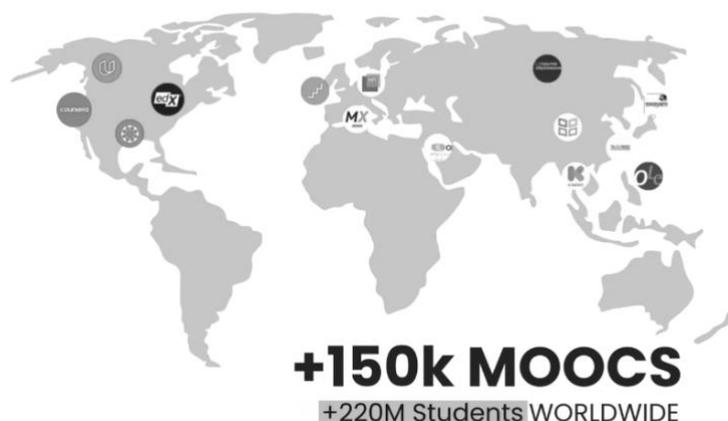


Figure 1. Top MOOC providers worldwide (edX, n.d.).

Hence, these platforms serve a substantial portion of the global population by providing accessible education.

Like general MOOCs, language-specific MOOCs (LMOOCs) are rapidly growing. Since the pandemic, the number of LMOOCs has surged from 200 in 2017 (Shah, 2018) to over 1,000 in 2021 (Luo & Ye, 2021). Language has become one of the top ten subjects studied on MOOC platforms (Shah, 2020), with platforms like edX offering courses in more than 20 languages. Perhaps unsurprisingly, English dominates LMOOCs, with considerably many courses devoted to this language, as shown in Table 1.

Table 1. Number of LMOOCs offered by Coursera, edX and FutureLearn.

Platform	The number of LMOOCs	The number of English language MOOCs	Share of English courses
Coursera (coursera.org)	240	137	75%
edX (edX.org)	85	19	22%
FutureLearn (futurelearn.com)	116	35	30%

Although LMOOCs were relatively unknown a decade ago (Stevens, 2013), their popularity among language learners, especially those studying English, has brought increased attention to their effectiveness. This includes the benefits and limitations of LMOOCs as online learning tools.

Benefits and Drawbacks of LMOOCs for Language Teaching and Learning

One of the most significant benefits of LMOOCs is their wide reach, enabling the participation of a vast number of learners. Being open and online means anyone with an Internet connection can participate in these courses (Godwin-Jones, 2014; Mai et al., 2022), and learners have the flexibility to engage with course content and activities at any time and from any location (Garriguez et al., 2019; Gilliland et al., 2018). The anytime, anywhere feature is even central to the definition of LMOOCs by Martín-Monje and Bárcena, who describe them as "dedicated Web-based online courses for second languages with unrestricted access and potentially unlimited participation" (Martín-Monje & Bárcena, 2015).

Besides anytime, anywhere access, LMOOCs offer language learners communicative opportunities that enable them to utilize their language skills, exchange ideas, share experiences, and establish relationships with language instructors and other language learners

globally (Godwin-Jones, 2014; Jitpaisarnwattana et al., 2019; Sokolik, 2015). Stevens (2013) posits that LMOOCs are effective tools for teaching interactive subjects, such as language, as they allow students to explore, perceive, and respond to tasks rather than merely completing tests or engaging in drills. Other scholars have highlighted the potential of LMOOCs to enhance intercultural learning due to the increased opportunities for teachers and learners to co-create materials (Mac Lochlainn et al., 2020) or participate in cross-cultural collaboration (Castrillo & Sedano, 2021; Kennedy & Laurillard, 2019; Luo & Ye, 2021).

Despite these advantages, LMOOCs have faced criticism regarding their pedagogical design. Although learner-centered practices are favored in contemporary language pedagogy, research indicates that most LMOOCs adhere to transmission-oriented, behaviorist learning models (Chong et al., 2024; Gilliland et al., 2018). Challenges of LMOOCs involve the lack of learner engagement, as evidenced by low completion rates, insufficient social interaction, and limited learner autonomy in many LMOOCs (Friðriksdóttir, 2021; Jitpaisarnwattana et al., 2019; Mai et al., 2022; Zhang & Sun, 2023). Additionally, questions have been raised about the extent to which these courses enhance language skills or pragmatic knowledge, or whether they are primarily effective for vocabulary learning or skill acquisition (Godwin-Jones, 2014). Perhaps it can be agreed that the pedagogical efficacy of LMOOCs is contingent on learning objectives and the learners who enroll in these courses rather than preconceived ideas. In light of these considerations, researchers agree that further research is required to determine how LMOOCs address individual learner differences and cater to the needs of diverse learner groups (Palacios Hidalgo et al., 2020; Sallam et al., 2022; Zhang & Sun, 2023). This includes investigating the potential of this technology for learners in low-resource settings where face-to-face language learning is either challenging or unfeasible, and where LMOOCs could serve as a much-needed alternative.

Refugees and Online Language Education

The global increase in the number of refugees has profound implications for language education. According to recent data from the UNHCR (2024), over 117.3 million individuals worldwide were forcibly displaced by the end of 2023 due to persecution, conflict, violence, human rights violations, or events that significantly disrupted public order. This figure includes 31.6 million asylum-seekers and refugees, encompassing those who are resettled, in transit, or residing in refugee camps. For many refugees, acquiring proficiency in a second or foreign language, often English, is a vital step toward resettlement and a promising future, as such skills can refugees find employment and enter higher education (Charitonos et al., 2020; Dahl et al., 2018). For this reason, language education becomes a key priority to support the social and economic inclusion of refugees and assist them in acquiring new linguistic and cultural knowledge.

Enrolling in face-to-face second-language classes presents significant challenges for refugees. Despite the critical importance of language education for the inclusion of refugees, the UNHCR estimates that fewer than one-tenth of all adult refugees are currently enrolled in higher education (UNHCR, 2023). The absence of documentation or academic credentials, often resulting from forced and abrupt departure, poses obstacles to refugee participation in language classes (Barcena et al., 2020; Dryden-Peterson, 2017; Halkic & Arnold, 2019). Additional challenges include remote or difficult geographical location, immigration status, unstable living conditions, and family responsibilities (Dryden-Peterson, 2015; Molin-Karakoc, 2025). As Read and Martín-Monje (2021) add, the demand for second language classes among refugees frequently exceeds the available supply, and non-formal language programs seldom lead to recognized degrees or accreditation necessary for refugees pursuing higher education. Hence, there is a need for additional tools that refugees access language education.

Amidst these challenges, LMOOCs appear to be ideal tools for refugees, seeking to improve their skills in English or other second languages. Indeed, thanks to the flexibility in terms of time and place of learning in online courses, few, if any, entry qualifications, and low or no tuition fees, online education through MOOCs and LMOOCs has become an appealing alternative to students otherwise excluded from higher education programs (Halkic & Arnold, 2019; Read & Martín-Monje, 2021). Online certifications or badges, specialised tracks, or ‘micro-credentials’ earned through MOOCs are also seen as attractive in that they motivate learners and provide hard evidence of second-language knowledge or expertise (Liyanagunawardena et al., 2013). Such openly accessible courses with certificates could be particularly beneficial for refugees in contexts where upskilling via traditional courses has been restricted due to different factors (Mai et al., 2022).

While MOOCs were initially conceptualized to provide equitable educational opportunities for disadvantaged learners with limited or no access to higher education (Garríguez et al., 2019; Kennedy & Laurillard, 2019; Read & Martín-Monje, 2021), the majority of MOOC and LMOOC participants remain highly educated adults from Western, developed nations, including Canada, the United States, and Europe (Barcena et al., 2020; Cagiltay et al., 2024; Halkic & Arnold, 2019). According to a study involving more than 2,000 learners by Cagiltay et al. (2024), the typical MOOC participant is adult (elderly), male and from a Western country. In addition, as noted by Bárcena et al. (2020), although theoretically any learner could enroll in any LMOOC, in practice, the nature of the materials and the social profiles of participants often exclude non-Western populations. This indicates that LMOOCs face limitations in facilitating language learning for culturally, linguistically, educationally, and geographically diverse groups, which have yet to be acknowledged or addressed more thoroughly in LMOOC research or design.

Online language learning designs should facilitate students' application of language skills across diverse contexts, employ multiple media for concept representation, and conduct regular assessments to monitor student progress (Gilliland et al., 2018). While research on MOOCs and online learning design has explored course development, activities, assessments, and pedagogical materials (Chong et al., 2024; Colpaert, 2006), how tools or learning solutions can promote equitable access to learning opportunities and resources for individuals such as refugees who are otherwise excluded or marginalized must also be addressed (Gilbert, 2019; Rizvi et al., 2023). The next section looks at accessibility and inclusion in the context of online language education for diverse learners.

Accessibility and Inclusion in Online Language Education

Accessibility refers to the practice of making something usable by the greatest number of people possible (Rose & Meyer, 2002). As Iniesto and Rodrigo (2024) elucidate, the relationship between accessibility and usability is intrinsic, since a tool that is not usable by a large number of people is also not accessible. In the context of online education, accessibility often involves making an online system or tool sensible, meaningful, and usable by as many individuals as possible by removing potential barriers of use (Gilbert, 2019). Inclusion, conversely, is defined as “the process of addressing and responding to the diversity of needs of all learners in learning, cultures and communities, and reducing exclusion within and from education” (UNESCO, 2005, p. 13). As a concept, it is closely related to accessibility, as an accessible tool can enhance the processes of inclusion and participation, and inclusive environments are often accessible environments. Unlike accessibility, however, inclusion can refer to practices, policies, features, or values within an educational setting that emphasize diversity. Beyond practical measures, the notion thus entails a transformed view of language teaching that requires us to replace conventional conceptualizations of individual differences

with broader, organizational, and social perspectives relating to all aspects of education, including online learning environments.

Some MOOC providers, such as Coursera, FutureLearn, and Udacity, have implemented strategies to enhance the accessibility and inclusivity of their platforms and courses. These strategies include offering financial aid or collaborating with NGOs and governments to make LMOOCs either free or affordable. For instance, incentives such as free annual subscriptions have been provided to Afghan women (FutureLearn, 2022), and degrees, such as those in English language teaching, have been offered to students facing financial difficulties (Coursera, n.d.). Additionally, several platforms have recently introduced translation and captioning services to help multilingual learners. Coursera, for example, currently provides translation and video captioning in most, if not all, of its language courses, encompassing 22 languages, including Arabic, Pashto, and Thai (Coursera, n.d.). While accessibility factors related to the platforms themselves are essential for facilitating language learning through LMOOCs for diverse learners, the accessibility and inclusivity of content and activities is equally critical. As noted by Rizvi et al. (2023) and Meri-Yilan (2020), educators and researchers must critically assess whose needs and interests are represented in online learning designs, including both online interfaces and content. Following this line of thought, in the next section, I reflect on the design of online language courses for refugees outside formal education and integrate these reflections with research-based evidence from the literature to elucidate the key design requirements for online language education to be accessible and inclusive for refugee individuals.

Online Language Learning Designs for Refugees

During the pandemic (2021-2022), I collaborated with a local educational provider in Finland to design an online English language course tailored for Somali-background young adults outside formal education. These students had experienced interruptions to their education due to having been in Somalia on and off during their high school years, and some also possessed limited digital and print literacy. They were thus concurrently learning English and digital literacy through the online course. Although the course was delivered via a local institution-based platform and was not universally accessible, it adhered to a modular MOOC-like structure—characterized by its asynchronous, online, and credential-oriented nature—rendering it pertinent to this study. In the course design process, I identified several critical issues that impeded the refugee students' participation, alongside design elements that offered new opportunities for language learning. In the subsequent section, I will examine the opportunities and challenges as well as the technical, cultural, linguistic, and pedagogical design requirements necessary to enhance the inclusivity and accessibility of LMOOC design for this learner group.

Digital devices, connections, and skills. A critical requirement for participation in LMOOCs and online courses is internet connectivity (King et al., 2018; Ibáñez Moreno & Traxler, 2019). However, many refugees face challenges in accessing a stable Internet connection due to various socio-economic or geographical factors, complicating their participation in online courses. Recognizing that some Somali-born refugees I worked with did not consistently have Internet access at home, I ensured that most of the online materials I developed were available offline (e.g., as downloadable PDFs or videos). The literature also suggests other methods to increase participation among individuals without stable connections, such as utilizing open-source platforms with low resolution and bandwidth requirements (Barcena et al., 2020; Castrillo & Sedano, 2021; Murugesan et al., 2017). Overall, reducing the necessity for a fast Internet connection is imperative if we aim to make LMOOCs accessible to refugees across socio-economic and geographical boundaries.

Another primary challenge in accessing LMOOCs is the requisite digital equipment, including digital devices. A significant proportion of refugees, both in developing and developed countries, do not possess computers; however, many have Internet-enabled mobile devices or smartphones (Barcena et al., 2020; Read & Martín-Monje, 2021). In my experience working with Somali-born students, I observed that while most lacked access to computers at home, they all owned and were adept at using smartphones for online learning. This observation is corroborated by a study on LMOOCs for students from Morocco, Russia, Ukraine, Senegal, Mali, and Cameroon by Read and Martín-Monje (2021), which found that 76% of refugees and migrants utilized their smartphones in conjunction with other devices to access LMOOC materials. Therefore, ensuring that online activities are compatible with mobile devices is crucial for making LMOOCs accessible as supported by researchers who have advocated for the development of more mobile-supported courses and platforms to enhance refugee participation in LMOOCs (Barcena et al., 2020; Read & Bárcena, 2015; UNHCR, 2016).

MOOC providers frequently presume that all participants are both digitally and print literate (Kennedy & Laurillard, 2019). However, this assumption presents challenges for refugees, who exhibit diverse educational and literacy backgrounds. In my work with Somali-background refugees, I observed the difficulties some learners encountered with specific digital skills (e.g., navigating long texts, logging onto the course site) and the necessity to adapt digital training materials for those who were not print literate. To better accommodate refugees in the course, I incorporated simplified, multimodal instructions utilizing audio recordings, screenshots, and other visual aids to assist refugee learners in navigating and responding to tasks. The literature has similarly identified the varied digital skills as a significant barrier to the online engagement and MOOC participation of refugees (Halkic & Arnold, 2019; Traxler, 2018). Further research is hence required to explore how refugees' digital skills can be further enhanced through LMOOCs, including what strategies may work across different learner groups.

Language as the object and medium of learning. In LMOOCs, language functions as both the medium and object of learning. These courses can thus present significant cognitive load for students, particularly beginner level learners. For this reason, scholars have advised against content-heavy approaches and advocated for the implementation of diverse scaffolding strategies in LMOOCs, especially for beginner-level learners (Barcena et al., 2020; Chong et al., 2024).

A prevalent method to enhance accessibility in online courses designed for multilingual learners, such as refugees, is through multilingual scaffolding such as translation. Given that many refugees are multilingual, their language learning can be substantially improved by providing scaffolding in additional languages. In the English course I developed for Somali-born students, I utilized videos with transcription and subtitle options. Students were also encouraged to use Google Translate for any English text they found challenging. However, despite the increasing availability of multilingual options in LMOOCs, the number of languages offered for translation remains limited compared to the global linguistic diversity (Barcena et al., 2020; Zhang & Sun, 2023). Moreover, as Zhang and Sun (2023) note, automated translations have not been rigorously evaluated by educators, learners, or researchers in LMOOCs, and their quality remains uncertain. Further investigation into the use of translation to enhance online learning in LMOOCs is thus warranted.

Multimodal scaffolding presents another opportunity to improve accessibility in LMOOCs (Chong et al., 2024; Gilliland et al., 2018). Text-heavy activities and platforms posed obstacles for some Somali students in the course I designed (e.g., following instructions when presented in lengthy paragraphs). To address the text-dominant environment, I integrated simplified, multimodal instructions, employing audio recordings, short screencasts, and icon-based task

cues to assist students in navigating the platform and assignments. Additionally, I ensured a variety of activities (e.g., audio recordings, videos, written assignments, and polls) to engage students in multiple language skills and modalities, thereby enhancing their learning experience. To further support multilingual language learning in LMOOCs, more information is nonetheless necessary to optimally combine linguistic and non-linguistic elements.

Cultural relevance of content. Numerous researchers, developers, and educators persist in applying pre-existing online content and pedagogical models to the design and development of new LMOOCs, even when materials or courses designed for students in the Global North may not be pertinent to those in the Global South (King et al., 2018; Liyanagunawardena et al., 2013). The limited attention to cultural diversity in LMOOCs has prompted inquiries into the assumed extensive reach of this technology (Rizvi et al., 2023). Recently, there has been an increased focus on incorporating local knowledge and cultural perspectives into LMOOCs (Mac Lochlainn et al., 2020; Zhang & Sun, 2023).

Adapting content and integrating more culturally relevant examples were pivotal in designing an online course for Somali-born refugees. To enhance cultural relevance, I substituted generic scenarios with task prompts that mirrored the learners' lived experiences. This included texts or characters with whom students could more closely identify (such as African-born authors or heroes) or tasks that were related to their lives or held personal significance (e.g., recording a speech on immigrant rights). In addition to enabling refugees to draw upon their cultural knowledge and identities for language learning, such modifications have facilitated students' application of language skills to real-life situations. To further enhance the cultural relevance of LMOOCs and engage refugee learners, potential Western cultural dominance in online courses should be meticulously examined, and content and activities should be rendered more culturally meaningful.

Personalized language learning. Finding ways to cater to the different learning styles of learners is increasingly important for inclusive and accessible LMOOC design. Nonetheless, the personalization of LMOOCs for refugees in particular presents a significant challenge due to the absence of pedagogical models, complicating their implementation. While LMOOCs may be informed by behaviorist (xMOOCs) or socio-constructivist learning theories (cMOOCs), Somali-background students exhibit a preference for more socially interactive online learning activities, perhaps due to their educational backgrounds or being from collectivist cultures. In response, I incorporated more collaborative tasks, such as peer reviews and collaborative projects, into the course to align activities with students' needs and create a more pedagogically stimulating environment. This preference contrasts with the predominantly individualistic and isolated learning model that often characterizes LMOOCs (Chong et al., 2024; Gilliland et al., 2018).

Another critical issue is the lack of personalized feedback in LMOOCs (King et al., 2018). Although individualized instruction is crucial when teaching heterogeneous refugee learners, the large scale of participants limits personalized interactions, individual feedback, and peer or teacher scaffolding in LMOOCs (Ingavélez-Guerra et al., 2022; Kennedy & Laurillard, 2019). In the course I designed for Somali-born students, personalized feedback was provided only for individual writing tasks and peer review assignments. To address this, I organized two face-to-face sessions with students at the institution, offering more detailed feedback. Thus, a blended learning approach may be a more suitable alternative to enhance personalization and mitigate the sense of isolation common in online learning. With the advent of new AI features, such as chatbots, personalized learning and feedback can be further enhanced through adaptive technologies that offer individual progress assessments or targeted recommendations (Chong

et al., 2024). However, the implementation of AI tools in LMOOCs has not yet been thoroughly assessed and warrants further research.

A particularly effective strategy for enhancing personalization in LMOOCs involves the co-design of courses with students and other stakeholders. To ensure the relevance of course designs, I also adopted a co-design approach in developing an online English course for Somali-born refugees. I collaborated with the students and their instructors on content and course objectives, which enabled a deeper understanding of the needs of refugee learners and their educators. Together, we generated innovative ideas for content and activities that not only helped students achieve course objectives but also rendered the learning experience personally meaningful. Through this co-design process, I continuously refined the content and materials over the course of the year, soliciting feedback on the design and suitability of tasks through weekly in-person meetings or text messages. Similarly, in a study by Castrillo and Sedano (2021), language courses were developed for over 2,000 refugees and migrants through collaboration with university academics, NGOs, refugee support groups, volunteers, refugees, and migrants. This co-design process, aimed at creating two beginner-level LMOOCs (in this instance, Spanish rather than English language courses), facilitated significant modifications to the initial course designs. These modifications included enhanced support for multimedia features (such as video, images, and audio interspersed with written text) and the incorporation of both test-type activities and learner self-evaluations, based on the utility perceived by learners, educators, and other professionals. As both examples make evident, co-designing materials with refugee learners, rather than for them, fosters a more inclusive and supportive learning environment, thereby guiding the development of appropriate online language learning designs for the students.

Discussion

My experiences in designing online language courses for Somali-background refugees, in conjunction with the reviewed literature, have identified a set of principles that can enhance the accessibility and inclusivity of LMOOCs for refugees. While some principles may be specific to certain refugee groups, such as the ones mentioned in this study, they serve as a foundation for further explorations of accessibility and inclusion in the context of refugees and LMOOCs. I have categorized these principles into five strands: technological, linguistic, cultural, pedagogical and research, as follows:

Technological principles

Offline viewing options and mobile-supported LMOOCs are essential for refugees who lack stable Internet connections or access to computers. Given the increasing popularity of mobile phones and smartphones among refugees, more LMOOCs should be adapted to this medium. Mobile-supported LMOOCs are also likely to enhance refugee engagement and participation by utilizing familiar devices, considering that many refugees are more literate with mobile devices than with computers.

Linguistic principles

Given that language serves as both the medium and object of learning in LMOOCs, it is essential to minimize content-integrated learning and text dominance, particularly for beginner-level learners and those with limited print literacy (Chong et al., 2024). Efforts should be directed towards translating various sections of the course, ensuring that these translations and captions are accurate (Zhang & Sun, 2023) and accessible in all languages spoken by the refugees concerned. A variety of multimodal scaffolding techniques should be employed, aligning with the preferences of diverse students. Consequently, the effectiveness of

multilingual and multimodal scaffolding should be assessed, ideally with different refugee groups, to ascertain how best to support refugee learners' language skills in LMOOCs.

Cultural principles

To mitigate the dominance of Western cultural influence in course materials, LMOOCs should be designed to reflect the cultural, linguistic, and educational backgrounds of the intended learners (Rizvi et al., 2023). As further discuss below, the cultural adaptation of content and activities in these courses should ideally involve a co-creative process to further facilitate collaboration and intercultural learning among refugees, instructors, and other stakeholders.

Pedagogical principles

LMOOCs should aim to integrate the pedagogical features of both cMOOCs and xMOOCs, balancing teacher- and learner-centered pedagogies. This approach supports the development of structural and pragmatic language knowledge and is beneficial for refugees accustomed to diverse learning traditions or styles. Incorporating blended learning elements could further increase opportunities for personalized feedback when such feedback is not efficiently facilitated online, and foster greater engagement by helping students overcome a sense of isolation. The incorporation of AI-based tools to enhance personalization appears advantageous and warrants further exploration in refugee LMOOCs.

Research principles

As evidenced by my design experiences and examples from the literature, involving refugees and other learners as co-researchers or designers can significantly enhance LMOOC provision and the utility of online language learning materials and activities for the students. Although LMOOCs are still regarded as an emerging technology (Gillespie, 2020; Zhang & Sun, 2023), further research is required on various aspects of LMOOC design. Language teachers, researchers, and instructional designers play a crucial role in amplifying students' voices against other dominant commercial discourses (Castrillo & Sedano, 2021; Read & Bárcena, 2015). Involving learners, such as refugees, in LMOOC design is a point that merits further emphasis if the technology is to fulfill its intended goal of making language learning accessible to all students, including those with no or limited access to higher education.

Conclusion and Future Directions

MOOCs and LMOOCs continue to garner significant attention from language learners, educators, researchers, and instructional designers. However, discussions concerning the interests, needs, and backgrounds of diverse learners in these courses and the inclusivity and accessibility of these platforms are notably absent from the research, which predominantly focuses on privileged learners. With the exception of a few initiatives (e.g., Barcena et al., 2020; Castrillo & Sedano, 2021), the design of LMOOCs for diverse refugee populations remains largely unexplored, despite the initial vision of this technology to support students with limited access to higher education (Garríguez et al., 2019; Kennedy & Laurillard, 2019; Read & Martín-Monje, 2021). Contrary to this objective, many MOOCs and LMOOCs continue to cater to highly educated learners from Western countries, thereby questioning their purported reach. In response to the increasing dispersion of refugees, there is a pressing need for inclusively and accessibly designed LMOOCs that align with migration patterns and the growing diversity of language learners globally.

This paper has demonstrated several ways in which LMOOCs can become more inclusive and accessible to refugee learners. Drawing from the literature and my experience in co-designing online language learning for Somali-background refugees, I have identified both challenges and opportunities associated with LMOOC technology. These include digital requirements,

such as digital skills, mobile compatibility, and Internet access; language requirement including scaffolding through multimodality and translation; culturally relevant content through increasing meaningful materials; personalization through varied pedagogical approaches; hybrid learning environments; and co-design. Furthermore, I have identified five principles related to technological, pedagogical, linguistic, cultural, and research aspects that are crucial for enhancing the accessibility and inclusivity of this technology for refugee learners.

The reflections in this study are grounded in evidence from the literature and my experience as a researcher and designer. Consequently, future research must continue to explore how LMOOCs can be made accessible and inclusive to a broader range of refugee learners by incorporating multiple perspectives from both refugees and various stakeholders. The development of theoretical and pedagogical frameworks is also necessary to guide educators and instructional designers in creating and implementing inclusive and accessible LMOOCs. Ideally, as argued in this paper, this will involve more projects that employ co-design, ensuring that LMOOC research is driven not by technology or commercial interests but by the needs of language learners and educators themselves.

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