

The Role of Scaffolding in LMOOCs for Displaced People

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This article presents the results of an analysis of how passive and active scaffolding, such as types of structured student learning support, can be provided for refugees and migrants in Language MOOCs (LMOOCs). It focuses on the nature of such scaffolding and what effect it has on learning. After an analysis of the theoretical aspects of supporting refugees and migrants in this type of course, a case study is presented. This study focuses on the inclusion of scaffolding in the design, development and running of two Spanish LMOOCs for immediate needs, created within the MOONLITE project in collaboration with support groups for displaced people. The results of the study support the use of scaffolding as a mechanism that improves the course completion rates (increasing from the usual figure of around 10% to 31% and 30% in the respective courses), language learning, and the overall satisfaction and motivation of the students.

Keywords: MOOC, LMOOC, passive scaffolding, active scaffolding, immediate need.

El rol del andamiaje en los LMOOC para personas desplazadas. En este artículo se presentan los resultados de un análisis sobre cómo proporcionar un andamiaje pasivo y activo a migrantes y refugiados, como tipos de apoyo estructurado para el aprendizaje en los MOOC de lenguas (LMOOC). Se centra en la naturaleza de dicho andamiaje y en el efecto que tiene este en el aprendizaje. Tras un análisis de los aspectos teóricos del apoyo a los refugiados y migrantes en este tipo de cursos, se describe un estudio de caso. Este estudio se centra en la inclusión de andamiaje en el diseño, desarrollo y funcionamiento de dos LMOOC de español como lengua extranjera para necesidades inmediatas, creados dentro del proyecto MOONLITE en colaboración con grupos de apoyo para personas desplazadas. Los resultados del estudio respaldan el uso del andamiaje como mecanismo que mejora las tasas de finalización de los cursos (pasando de la cifra habitual de alrededor de un 10% a un 31% y un 30% en los respectivos cursos), el aprendizaje del idioma, así como la satisfacción y motivación general de los estudiantes.

Palabras clave: MOOC, LMOOC, andamiaje pasivo, andamiaje activo, necesidades inmediatas.

1. Introduction

The lack of scholarly research on the use of MOOCs in fragile contexts has been noted in the literature. However, at the same time, there has been a growing interest over recent years in tailoring MOOC design for displaced people's specific needs (Castrillo & Sedano 2021; Lambert, 2020; Castaño-Muñoz *et al.* 2018; Read, Sedano, & Barcena 2018), following "human-centred" (Moser-Mercer, Hayba, & Goldsmith 2018) and "contextualized" (Shah & Santandreu 2019) design approaches.

There have been MOOC initiatives at a European level for vulnerable groups of learners, which include women, young people, specific cultural groups, people with disabilities, and refugees and migrants. Two examples are OpenUpEd and MOOCs4inclusion. The first initiative offers a search page for MOOCs that meet certain inclusion requirements and use a quality label, created by the same initiative, which follows a series of quality benchmarks for MOOCs (Rosewell & Jansen 2014). The second example focuses on the assessment and categorisation of free digital learning resources for displaced people, providing recommendations on how to use them (Colucci *et al.* 2017). In their research, they include several MOOC-based projects that have targeted refugees and migrants such as those by Kiron, InZone, Ready4Study, to name a few.

In the existing open online learning initiatives for refugees and migrants identified by MOOCs4inclusion, language learning stands out as the most common one, followed by civic integration and employment, and higher education (Castaño-Muñoz *et al.* 2018). Some of these initiatives take the form of apps (e.g., Funzi); online courses (e.g., OLS); SPOCs (e.g., the Jamiya project); and several follow the Content Language Integrated Learning (CLIL) approach (Gimeno-Sanz, Navarro-Laboulais & Despujol-Zabala 2017; e.g., for academic skills, LASER; or for citizenship, L-Pack Citizenship Language). These resources can be extremely useful, but are also very challenging for many displaced people, due to their low level of language competence (Read, *et al.* 2018). Since effective target language use is important to facilitate social inclusion in a host community, it can be argued that MOOCs aimed at learning a second language (henceforth, LMOOCs) are essential. Hence, more research on this specific topic must be carried out, since there is little available (Castrillo & Sedano 2021).

In general, LMOOCs, have four inherent limitations, which can create added difficulties for displaced people. Firstly, the foreign language itself is both the vehicle of course communication and the object of learning (Barcena & Martín-Monje 2014). Given that communication in

MOOCs is predominantly written, this can be even more challenging for students who are at a beginner level, with little or no knowledge of the Roman alphabet. Secondly, the lack of teacher presence in the courses to enhance communication and interaction. Thirdly, the lack of personalised feedback and correction, which are both fundamental aspects when learning a foreign language (Sokolik 2014). For displaced people, a lack of face-to-face (henceforth, F2F) contact with the teacher or other students can be especially challenging, due to psychological circumstances and the feelings of isolation (Shah & Santandreu 2019; UNESCO 2018). However, other authors (Colpaert 2016; Rubio, Fuchs, & Dixon 2016) have noted that the main advantage of LMOOCs is the opportunity to bring isolated learners together, from different parts of the world, and create an authentic learning community, which can have a very positive effect for refugees and migrants. Fourthly and finally, one of the most controversial aspects of MOOCs is the low completion rate they have (an average of less than 10%). This can be even worse in refugee camps and humanitarian settings (UNESCO 2018). LMOOCs normally have similar statistics that can be due, among other factors, to the above-mentioned lack of personalised feedback, instructor presence, and F2F interaction (Barcena, Martín-Monje & Read 2015).

2. The nature of scaffolding in LMOOCs for refugees and migrants

From the smallest F2F classes through to the largest online courses, teachers have always had a key role in supporting their students' learning. Exactly how such help is manifested depends on the experience of a given teacher and the material being taught. Furthermore, as the teaching process continues, and the students learn and become more competent in what they are studying, then the support they require should gradually fade as it is not so necessary.

Such support can be viewed as a kind of 'scaffolding', a term borrowed as a metaphor from the temporary metallic structures used in construction. The structure is erected around a building as it is being built, enabling the builders to work on it above ground level, and then removed as the work finishes and the building is complete. In the context of education, the term was coined by Wood, Bruner, & Ross (1976) to refer to the assistance provided to a learner when undertaking a task that can be removed as the task is learned. Similarly, Bruner (1985) describes scaffolding as "the steps taken to reduce the degrees of free-

dom in carrying out some tasks so that the child can concentrate on the difficult skill she is in the process of acquiring” (19). As Gibbons (2015) notes, scaffolding is not a synonym for help but rather a kind of assistance given to learners as they move towards new skills, concepts, etc. Dabbagh (2003) refers to it as just-in-time, just-enough assistance, which is removed as students’ progress.

When courses move from F2F classrooms to online learning environments, the need for scaffolding not only remains but arguably becomes greater, since the types of possible interactions in these courses are not as rich and varied as those possible in small student-number classrooms. It is arguably easier for teachers to provide just-in-time, just-enough assistance, which is removed as students progress, than in online courses where the teacher and the students are separated both geographically and temporally (Dabbagh 2003). Dabbagh highlights three types of relationships that are important for scaffolding to be effective in online courses, namely teacher-student, student-student, and student-content. The challenge is in providing the right degree of support for students requiring different degrees of help, too much, or too little, given to the wrong kind of student, can have adverse results.

Scaffolding in MOOCs is typically more complicated than in other online courses, for at least two reasons, firstly, there are often large numbers of students (so managing the interactions can be more complicated), and secondly, since the role of the teacher in a MOOC is mainly that of course designer, and even developer, working to set up the course at the beginning, but not as someone who participates in the course once it starts. There may be course facilitators and/or curators available to support students but this depends on a series of factors such as the policy of the MOOC provider or institution that hosts the course, the human resources available to provide such functions, and the underlying business model associated with the platform (which might provide a way for people to be remunerated for such activities, thereby facilitating their availability). Since the key characteristics of MOOCs are the large student numbers and the lack of active participation of a teaching team, then the majority of the scaffolding that can be provided needs to be present in the course before the students actually start to study it.

Given the difficulties highlighted above, it can be argued that, in order to improve LMOOC success rates for displaced people, additional support or scaffolding should be incorporated in their design and of execution (cf., Shah & Santandreu 2019). Authors such as de Waard *et al.* (2014) point out that success in MOOC for vulnerable groups can be achieved giving them “a citizen role based – if only in part – on MOOC learning outcomes” (9). It is reasonable, therefore, that the different

stakeholders (from the actual students who will undertake the course through to support organizations who regularly work with them) of a given course should be actively involved in its design and execution (Colucci *et al.* 2017).

2.1. Technological limitations

Given the social instability and mobility of displaced people, it is inevitable that there are technological factors present in their access to, and participation in, online courses that can directly affect their ability to learn. Such factors include the stability of their Internet connection, access to an electricity, or even not possessing a computer from which a given course can be undertaken. Therefore, scaffolding for these criteria should include the possibility of downloading all the course materials (videos, audios, PDFs...) for offline consultation (Moser-Mercer 2014), course responsiveness given low-bandwidth connection to access light-weight versions of audio-visual content, and even the inclusion of a ‘blackout’ proof design (Jansen & Konnings 2017). Shah and Santandreu (2019) propose to adapt technology issues to the context by the use of “green technologies” such as renewable energy, for example.

According to UNESCO (2018), 71% of refugees own a mobile phone, although it is often just a basic device. Mobile learning can provide a unique learning opportunity for displaced people who cannot attend F2F language courses, offering them a way to integrate learning into their daily routine (Kukulska-Hulme 2019). Therefore, since mobile learning seems to be appropriate for displaced people’s needs and situations, LMOOCs should be designed to be responsive, i.e., deploy effectively on mobile devices (de Waard *et al.* 2014). However, three aspects need to be kept in mind when scaffolding mobile language learning activities. Firstly, many people will need extra technological support in order to have a reliable mobile Internet connection (UNHCR 2016). Secondly, refugee and migrants’ specific needs and learning challenges must be addressed, such as allowing them to monitor and regulate their own learning (Demmans 2017). Thirdly and finally, flexible combinations of human support are needed (what Kukulska-Hulme 2018: 4 refers to as “new configurations of human assistance combinations -teachers, friends, volunteers, mentors, and online communities”).

Finally, it is important to highlight the limitations of some refugees and migrants’ digital literacy. Such literacy is essential in order to undertake a MOOC. Problems often arise due to sociocultural differences, since “digital literacy is both culturally and contextually specific” (Traxler *et al.* 2019: 20), and as such these people have difficulties with

Western online pedagogy models. To limit these problems, among others, an LMOOC should be accessible and have user-friendly navigation, include a simple technical guide, and have a technological support team available during the course execution.

2.2. Linguistic issues

As noted above, LMOOCs present an added difficulty for displaced people, since the target language is both the vehicle of course communication and the learning object. This is problematic for low-level learners since they have only basic (or no) knowledge of that language. Furthermore, most courses' content, assignments, and interaction are text-based, which increases "the threshold for those learners not familiar with the language of instruction" (de Waard *et al.* 2014: 9).

Therefore, in order to mitigate these difficulties, an LMOOC aimed at refugees and migrants should be designed with the following linguistic scaffolding criteria included: firstly, the use of simple expressions when formulating instructions, presenting contents and activities, and moderating video and audio speeds. Secondly, specific linguistic terms and the use of dialects should be avoided. Thirdly the written content requires an audio-visual support component. Fourthly, a glossary of terms, video subtitles, and transcriptions, in several languages, should be included. Fifthly, inclusive language should always be used in forums by trained facilitators (Read *et al.* 2018).

Finally, although, the aim of an LMOOC is to learn a designated language, in an LMOOC for refugees and migrants, where the variety of ethnicities and languages can be very high, plurilingualism and multilingualism can be argued to be enriching (de Waard *et al.* 2014). Therefore, diverse language use can be permitted in the forums and associated social networks, to empower learners' plurality. Furthermore, research on language teaching for displaced people highlights the concept of "translanguaging". This refers to discursive practices carried out by bilingual or multilingual people in a diverse world that goes beyond a limited national concept of language; and the pedagogy behind that "starts by enabling migrants to recognize their full language repertoire and helping them incorporate new features into their own language system" (García 2017: 18).

In this research, the nature and role of scaffolding for refugees and migrants in MOOCs is explored in terms of two research questions:

1. How can scaffolding be provided for refugee and migrant students in an LMOOC to overcome or limit both the inherent

difficulties with this teaching/learning modality, together with the problems that these students bring to the courses?

What is the effect of this scaffolding on learning in the courses?

2. The authors argue that the answers to these questions will come by analysing the scaffolding provided for two LMOOCs (described below), to help with five areas of difficulty for refugees and migrants (technological limitations, linguistic issues, methodological aspects, cultural and ethical issues, and institutional policy; Read *et al.* 2018). These areas are analysed next.

2.3. Methodological aspects

The first methodological aspect to consider in MOOCs is their openness, something that is quite often not respected, although it should be when vulnerable groups are considered (Jansen & Konings 2017). LMOOCs for displaced people should apply the following openness criteria, be free of charge and not impose any entry requirements (neither academic nor administrative). They should also provide free certification, and have materials with open educational licences, that can still be accessed once a course is finished (Read *et al.* 2019). Finally, they should follow an open pedagogy, facilitating different learning styles, and contain a flexible and modular structure.

An LMOOC for displaced people should follow “a learner-centred pedagogy” (UNESCO, 2018) and be created ad hoc, based on a bottom-up approach of learners’ needs analysis (Moser-Mercer *et al.* 2018), following a design thinking approach, and in collaboration with civil organisations (Read *et al.* 2019; Jansen & Konings 2017). There are three aspects that need to be taken into consideration during the course scaffolding process. Firstly, diverse learning styles should be included in the course, such as for example, the oral learning traditions, common to the educational experience of a lot of refugees. Other approaches, such as peer-to-peer learning and activities focused on creativity without teacher-direction, may be new for displaced learners and differ from their existing ideas of what constitutes quality F2F teaching (UNESCO 2018). Furthermore, these types of activities also imply a certain level of digital skills. Therefore, explanations of learning content in a MOOC should be provided in different ways and formats (written, oral, graphical, etc.). Activities should include self-evaluation so that they can be undertaken whenever it is appropriate for learners, providing meaningful feedback and the possibility of repetition.

Secondly, many free resources for learning a language focus solely on the acquisition of grammatical structures and vocabulary, and do not

follow a practical approach, which is what displaced people want. Therefore, LMOOCs for these collectives should be designed with an action-oriented approach (Council of Europe 2001), and focus on learning the language to fulfil immediate needs and facilitate improved employability (Traeger *et al.* 2018). From a practical point of view, neither course duration nor learning activities should be long, and the workload should not be too high (Moser-Mercer 2014), since displaced people often have to combine learning with other immediate tasks (e.g., health, administrative, housing, looking for a job, working) and as such do not have the capacity to concentrate for long periods due to their physical and psychological state (Castaño *et al.* 2018).

Thirdly, these courses should not only take into account displaced people's needs through the involvement of refugee support groups (henceforth, RSGs), but also include refugees and migrants themselves in the design process (Halkic & Arnold 2019), in order to empower them to be the agents of the change they wish to be ((Moser-Mercer *et al.* 2018: 46)). INEE (2012) includes, among the 19 minimum standards for education in emergencies, a standard that refers to inclusive community participation: "Community members participate actively, transparently and without discrimination in the analysis, planning, design, implementation, monitoring and evaluation of education responses" (22).

With regard to facilitation in the course, it has been noted that the presence of tutors or facilitators is crucial in a MOOC. This is even more important in an LMOOC for displaced people, in order to create a solid and stable virtual learning community. Some LMOOC research has stressed that success is related to social engagement in forum participation (Martín, Read & Barcena 2017). To this end, some authors (Read *et al.* 2019; Shah & Santandreu 2019) propose the participation of volunteers, such as recently graduated teachers or students, as mentors and facilitators in online learning communities. Such volunteers need to be trained on how to manage a community before a course starts.

A potential limitation with LMOOC facilitation can arise from the functionality of the forum tool on the platform where the MOOC is hosted. Therefore, the structure of forums should be very clear, with defined threads or discussions associated with a practical topic, which can be quickly and easily accessed (e.g., by using tags; Moser-Mercer *et al.* 2014). Furthermore, social networks used by this collective (e.g., Facebook) can be an effective element for connecting and collaborating (Castaño *et al.* 2018).

2.4. Cultural and ethical issues

Within the cultural issues that need to be taken into account, given the potential for a multilingual and multicultural audience in

LMOOCs, diversity, identity, and interculturality should be considered, both in content and the facilitation of the courses. For example, materials and activities should be diverse in terms of identity, origin, beliefs, age and gender, so that learners can identify with them since “identification is connected to motivation and learning” (de Waard 2014: 8). Furthermore, interaction activities in forums should be oriented to reflect learners’ identities, since a general problem these collectives experience is that of acculturation, which can lead to problems of identity (UNESCO 2018).

Furthermore, LMOOCs aim to prepare students with the necessary socio-cultural and sociolinguistic skills to become intercultural speakers and citizens. Therefore, materials should include intercultural perspectives and try to relate to both origin and target cultures. Forum discussions should similarly be oriented to promoting intercultural communication.

With regard to ethical issues, the vulnerability of participant groups must be addressed, since “the open nature of MOOCs may be problematic in certain cases, such as some groups of refugees” (UNESCO 2018:67). Therefore, student privacy and data management must be treated seriously, and facilitators must be aware of the potential vulnerability of learners in order to address certain topics with care.

3. A case study of scaffolding in an LMOOC for refugees and migrants

The data used in the case study undertaken here comes from two LMOOCs, namely “Puertas Abiertas” I and II (henceforth PAI/II; Read *et al.* 2018) and comes from three sources: firstly, from analytic data stored by the UNED OpenEdX MOOC platform where the courses were run. Secondly, from initial and final questionnaires. Thirdly and finally, from a questionnaire given to the facilitators in the courses that were followed up with personal interviews in some cases.

PAI/II are two A1 – A2 level Spanish courses (following the Council of Europe 2001), specifically designed and developed for refugees and migrants. In the first edition of these courses, there were 2,252 students registered in PAI, and 1,233 in PAII. There was a good balance of males (53%) to females (47%), with an age range of 20 – 40 years old. The student population had a range of nationalities, of which the main ones were Moroccan (16%), Russian (7%), Ukrainian (5%), Senegalese (4%) Malian (4%), Cameroonian (4%) Brazilian, (4%), Indian (2%), and Syrian (1%). In PAI, of the students registered, 717 finished the first

task, and 702 successfully completed the course (31%). The mean of the activities successfully undertaken by the students was between 96% and 98%. In PAII, of the registered students, 461 finished the course (30%), with a mean of 92% to 98% activity success. In PAI/II, the teachers were supported by 15 facilitators, who provided most of the scaffolding in the forums, where they motivated the students as they progressed, provided complementary guidance for the tasks the students had to do, and finally, solved problems and answered questions. Each course contained a general forum and a specific one for each of the four modules. In PAI there were 1,647 messages in the forums and in PAII there were 1,230.

Course resource	PAI support value	PAII support value
Audios	95%	97%
Videos	100%	99%
Texts	95%	100%
Additional explanations	80%	95%
Cultural materials	94%	99%
Test activities	98%	100%
Forum activities	90%	90%

Table 1. *Percentage of students who positively valued the support resources in both LMOOCs*

Based upon the analyses carried out in this case study, the authors differentiate between what can be defined as passive and active scaffolding. The former refers to support mechanisms designed into a course before it starts, and the latter, those that are provided by the facilitators, interacting with the students, as the courses progress. Passive scaffolding can only be provided if the teacher is aware of the parts of the course that some students will find difficult. In PAI/II, this type of scaffolding took the form of additional documentation (subtitles and transcriptions of the course videos, vocabulary lists, both monolingual [word and definition in Spanish] and multilingual [word in Spanish and its equivalent in French, English and Arabic], additional explanatory information, and cultural notes), activities that explicitly help the students to structure their work in a similar way that they would if there were a teacher present (often these can be undertaken in small groups with changing roles so that the students, in assisting their peers, can reinforce their own learning, and at a metacognitive level, become aware of the benefit of working in this way). There was also a first introductory module with videos and textual materials explaining what the goals of the course was, how the platform and its tools worked, and presenting a study guide.

The students were asked in the final questionnaire to value whether they felt that these materials had supported them in the studies they undertook in the course. The results are presented in table 1, where the final questionnaire in PAI received 778 answers and in PAII 313. As can also be seen in the table, the course resources prepared by the teachers to passively scaffold the students learning were very positively valued by them. It is interesting to note, additionally, that this perception was also shared by students in the PAI course who didn't actually finish the course (there were 778 answers to the final questionnaire when only 702 students finished). This is not the case in the PAII course, since only 68% of the students who finished the course answered the final questionnaire.

Active scaffolding depends on changes in student behaviour as the courses progress. For example, a member of the teaching team can follow discussions in the forums to see where students are having problems and provide assistance there or direct the students' attention to where additional resources can be found. In PAI/II, specific interactions in the forums were programmed so that shared discussion, undertaken in a structured way, would help students to clarify doubts and achieve a deeper understanding of different parts of the course and its related concepts. As can be seen from the results in table 1, the forums were also seen to be a key tool for supporting the students. Furthermore, in the final questionnaires, when asked what aspects of the forums the students found most helpful and motivating, around 67% (in both cases) noted both the presence of the facilitators, and the way in which they communicated with them consistently throughout the courses. Typically, such communication is usually high at the beginning and end of a MOOC but is not maintained during intermediate weeks.

In newer online (or virtual) learning environments and MOOC platforms, where learning analytics tools are available, a teacher can use them to identify students who are experiencing problems that often appear for students who are failing a course or are about to drop out. This evidence can come from their ongoing results (suspending assignments), or by changes in online behaviour (such as connecting less often to the course or by becoming more inactive in the forums). In the case of PAI/II, the OpenEdX platform had very limited analytics, so this possibility was not available.

As well as conceptual difficulties in working with the materials covered in a course, there can also be other psychological difficulties where students who require a more guided and structured learning process can lose track in a course or have motivational issues. Such a loss of direction is not really a question of knowing what to do next, which activities to undertake, or what content to study, but more a question of

being able to pace the work being done and understanding what degree of depth is required, as it is undertaken. As noted earlier, it is recognised that a significant problem for MOOCs is course dropout (Daniel, 2012), but this is not always an indication that a course is badly designed or structured, more a question of why students actually signed up to the course (Read, Barcena, & Sedano, 2018). Experienced teachers, who have developed a number of MOOCs, will be aware of the type of problems that can arise in these courses and the way in which scaffolding can be provided to help the students overcome them. Finally, in courses where facilitators or curators are included, the passive scaffolding required is greatly simplified for the teachers or course designers.

Facilitators can have two different roles within a MOOC. Firstly, as a source of guidance and help for students who cannot find the resources they need in the course, or do not understand how these resources can be used. This can happen even if the teachers have dedicated significant effort to explaining what should be done, since different people have different needs when requiring support. Secondly, for students who, even after having used such resources to learn a specific concept, or work on the development of a given competence, are still having difficulties. As the students report their difficulties in the course forums, the facilitators can either directly help, by providing additional information or explanation, or they can try to structure the interactions taking place there so that other students, who have a better understanding a given concept/competence, can be encouraged to help their peers who have difficulties, by providing the explanations and support themselves. For this to work it is essential that the more advanced students can appreciate the benefits they gain by helping others.

When MOOCs are developed for refugees and migrants, as well as the general difficulties present in this type of course for all types of students, which need to be included in any scaffolding provided, it is important to take into account other factors that also can be detrimental for this particular social group, and scaffold them as well. Firstly, for refugees coming from the MENA (Middle East or North of Africa) regions, who may not have experience of using online educational platforms or tools or even using social networks for their learning. It is one thing to use such networks, with small closed contact groups, to interact with friends and family members, and quite another to openly interact with large groups to undertake activities that would be classified as social learning (Koku & Wellman 2004). This, unfortunately, is particularly the case for females. Furthermore, regardless of the scale and nature of an online course, which can be closed with a small number of participants, or open and with many, given that refugees are often in unpredictable, instable, and changing circumstances (such as moving

from one camp to another), then trying to undertake online learning is, not surprisingly, unpopular with them. Even when this is not the case, living in noisy refugee camps, with limited access to Internet, mostly undertaken from small mobile devices, which they may not always be easy to charge, can make studying online far from easy or desirable. Furthermore, if refugees are already feeling socially isolated, then using a MOOC to attend to their learning needs may not be ideal for their feelings of isolation, since they would prefer to meet in classic F2F classrooms.

In MOONLITE, the LMOOCs PAI/II have been specifically designed and developed for refugees and migrants taking into account the specific difficulties they have with this type of course (outlined above). A series of steps were taken to address the five types of difficulties identified (namely, technological, linguistic, methodological, cultural and ethics, and institutional policy [not directly relevant for the effects of scaffolding]). Firstly, regarding the technological problems, given that 70% of the refugees and migrants taking part in these courses use mobile devices to connect to Internet, PAI/II have been developed to deploy on these devices in such a way that all the textual content is legible on a small screen, and the videos and audios have a small footprint, so that they can be downloaded without the need for broadband connections. Navigation in the courses was also simplified to be effective from mobile devices, and finally, the activities were developed to be able to be undertaken from any device without the need to use a desktop or laptop computer. As noted above, a simple user guide was also provided so that people unfamiliar with such courses or educational platforms can learn how they can move around the course and what resources and activities are available and how they should be used. The facilitators reported that no students had complained that the course resources hadn't deployed well on their mobile devices.

Secondly, regarding the linguistics problems, specific scaffolding is required. Care has been taken so the instructions for the course in general, and specifically for contents and activities, are written in such a way as to be clear, simple and avoid unnecessary linguistic terminology. As noted above, subtitles and transcriptions were provided for the videos, in both the target language and also ones already known by the refugees, i.e., French and Arabic. As can be appreciated from table 1, these videos were well valued by the students as support mechanisms.

Thirdly, from a methodological perspective, the MOOCs are structured to be massive and open in every sense. They are free of charge for registration, access to the materials, and when requesting a certificate. Although the courses have been created specifically for refugees and migrants, other types of students who want to learn introductory

Spanish could participate. It is for this reason that the courses use the term “displaced people” in their title rather than that of “refugees and migrants”. As noted previously, identifying what kind of MOOCs would be suitable for this collective, together with the actual design and development process has been undertaken in collaboration with RSGs. For this reason, the content and learning activities included in the PAI/II courses focus on practical real-world language use, since they are more relevant to the intended audience and therefore more motivating. This is an important factor when trying to prevent course dropout. It is argued that the effectiveness of the activities for the students is reflected in their mean successful completion, that is, as noted above, between 96% and 98% in PAI, and between 92% and 98% in PAII. Furthermore, as noted above in table 1, 98% of the students in PAI and 100% in PAII stated that they found the activities supporting and motivating in helping them learn.

Fourthly, the cultural and ethical problems. Firstly, specific cultural scaffolding materials were prepared by the teachers before the course started. In general, the two LMOOCs PAI/II use inclusive teaching materials and course videos with participants that are diverse in terms of origin, beliefs, age, and gender. Such a selection is intended to help the students relate to them and not feel alienated by typical middle-classed European educators. It should be noted that while it is important to provide such cultural scaffolding, to help the students in the courses, it is also equally important to help them develop the necessary sociocultural and sociolinguistic skills to become intercultural speakers and citizens, thereby moving them toward their goal of social inclusion. Given the background of a lot of the refugees and migrants taking the MOOCs, where in their countries there is a historical tradition of oral learning, learning by repetition, etc., then the audio-visual components in the course are maximised and learning is not only based upon reading text. In fact, little text is used initially in the courses. Subsequently, as the refugees and migrants progress, then more importance is given to this modality. Secondly, regarding the ethical questions, at no point did the students have to disclose any personal data, and while there were activities in the forums that might lead to such disclosures (e.g., compare the health care system in a foreign country and in Spain), they were advised not to disclose any real information about themselves or their lives. The facilitators were also trained before the LMOOCs started, to be particularly sensitive to interactions that might give rise to such disclosures, and the need to take appropriate measures.

Finally, many of the facilitators in the courses were actually members of the RSGs. They were able, therefore, able to provide scaffolding based not only upon their knowledge and experience of teaching lan-

guages, but also specifically upon their practical experience of working with social group and the types of problems they have.

In both PAI/II courses, all the facilitators noted the success of this engagement, causing more than 80% of the culturally relevant interactions in the forums to be longer than other ones. In the follow up interviews, the facilitators also noted a series of factors identified by the students as being supportive and motivating them in working hard in the courses. These factors included the preparation of courses adapted to their specific needs (e.g., defending their rights), the provision of scaffolding within the materials of the course, the practical nature of the topics covered in the modules, and the multicultural atmosphere generated in the forums.

4. Conclusions

The research presented in this article was carried out in the context of the MOONLITE project. Following a design-based approach, including both RSGs and refugees in the process, two Spanish A1 - A2 LMOOCs were designed, developed, and run. The results of these courses showed that nearly a third of all the students who had registered for the courses successfully completed them. These rates are well above the 10% figure common in almost all MOOCs. From previous experience the authors appreciate the value given to the support the students receive in LMOOCs. Hence, a study has been undertaken to explore the nature of scaffolding in the courses and the effect it has had on these results.

This article started by presenting the limitations of LMOOCs in general and for refugees and migrants in particular. Previous research has identified five areas where they can have particular difficulties with this type of course, namely: technological, linguistic, methodological, cultural and ethical, and institutional policy. For all except the last, this paper presented research that considers what effect scaffolding can have for displaced people. After contextualising the problems in these areas according to the existing literature, two research questions were presented. Firstly, how can scaffolding be provided for refugee and migrant students in an LMOOC to overcome or limit both the inherent difficulties with this teaching/learning modality, together with the problems that these students bring to the courses? Secondly, what is the effect of this scaffolding on learning in the courses?

Regarding the first question, two types of scaffolding were identified, which can be referred to as passive and active scaffolding. The former was designed into a course before it started, and the latter was provided by the facilitators, interacting with the students, as the courses

progressed. As discussed previously in the article, the passive scaffolding took the form of introductory videos, textual materials, subtitles and transcriptions for all the videos, supplementary resources (such as subtitles and transcriptions of the course videos, vocabulary lists, both monolingual and multilingual, additional explanatory information, and cultural notes), activities that explicitly help the students to structure their work in a similar way that they would if there were a teacher present. As noted from the final course questionnaire results, the students greatly valued these passive scaffolding mechanisms, and the support they provided for learning. The results presented above also show the motivational value given by the students to these elements, something that arguably helped prevent course abandonment.

Active scaffolding refers to the guidance and help provided by the facilitators, and more advanced students, in the course forums, as the need arises. When the students have difficulties using the learning resources in the course, or require additional explanations and information, the facilitators complemented what already exists in the courses and provide additional help.

Regarding the second research question, from 92% to 100% of the students who undertook the courses successfully completed all the activities. These activities tested the students' knowledge and understanding of the Spanish taught therein. When questioned about the activities, the students attested to the effectiveness of the (passive and active) scaffolding received for their learning. Furthermore, as well as just the completion rates for the courses, the overall results presented above include indirect evidence of learning. This can be seen in terms of overall progress in the activities in the courses and the way in which knowledge and understanding of the Spanish covered in the courses is used by the students in debates in the forums and in response to facilitators' questions.

It has been argued in this article that scaffolding has a key role to play in supporting learning and the development of language competences in LMOOCs. The analysis undertaken here shows that scaffolding should be included in all three phases of the lifecycle of such a course: during its design, development and deployment. Such support arguably fulfils two basic needs of students in online learning, shortening distances between participants and educators, thereby increasing social inclusion and engagement, and easing access to and the use of online resources and activities.

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Notas

- ¹ Massive Open Online courses eNhancing LInguistic and TransvErsal skills for social inclusion and employability. ERASMUS+ project number: 2016-1-ES01-KA203-025731
- ² <https://www.openuped.eu/>
- ³ <https://moocs4inclusion.org/>

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