Inclusive Language MOOCs

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Abstract: This article discusses the application of MOOCs for refugees and migrants in order to help these groups of people develop the language competences and transverse skills which they require to improve their level of social inclusion and possibilities in the labour market, and/or access higher education in the country in which they find themselves or plan to go. Specifically, this research focuses on the way in which Language MOOCs (or LMOOCs [Martín-Monje, Barcena, 2014]) deploy on mobile devices [Read, Barcena 2015] can effectively and advantageously be used by displaced people. The study reported here outlines the design of two LMOOCs of Spanish for immediate needs, based on a previous needs analysis, developed by the ATLAS research group in collaboration with NGOs and refugee support associations in Spain.

Key Words: LMOOCs; social inclusion; displaced people
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1 Introduction

When Massive Open Online Courses (MOOCs henceforth) were first launched around a decade ago, there was a lot of debate about which subjects could be learnt using this new online modality. Given the necessary design adaptation strategies, it has been concluded, since then, that there is no topic which a priori should be excluded from being taught in a MOOC. Languages are considered half way through the spectrum of suitability [Barcena, Martín-Monje 2014] without compromising any of its inherent aspects, i.e., the fact that they are eminently social, both knowledge-based and skill-based, oral and written, context-driven, etc. and also considering the extra challenges of this learning modality, such as the heterogeneity of the participants, the unbalanced ratio between learners and teachers and the still rudimentary platforms that MOOCs are deployed in.

Statistics show that the participants of Language MOOCs (LMOOCs henceforth) are not much different from those of other MOOCs. Despite their heterogeneity, up until now these have been mostly educated people, either studying or holding university degrees [Christensen et al. 2013]. The (upper-)middle class socioeconomic and academic profile of the average MOOC student is distant from the original one that

many researchers and developers had in mind when these courses were launched and observers were celebrating as an envisaged democratization of knowledge [Agarwal 2016].

The recent European refugee crisis has led to the launch of a number of projects and initiatives to explore how MOOCs can be made more approachable and useful for vulnerable groups of displaced people, given their social inclusion and employability difficulties, such as MOOCs4inclusion or Kiron [1], to name just a few. This article presents the experience of the European MOONLITE [2] research project in tailoring LMOOCs for refugees and migrants.

2   Principles of LMOOC Design and Deployment for Displaced People

Although we tend to group refugees and migrants together, make generalisations about them, and identify common goals and problems, the reality is that there is considerable disparity between the group's "members". It needs to be recognised from the start that there is a series of sociocultural, pedagogic and technological differences that should be considered when trying to understand how open education can be used to help people in vulnerable situations. Most Europeans already have an important part of their needs met thanks to their full integration in a stable society that offers interaction and support on a regular basis. Hence, undertaking learning online, which can be an isolating experience, is something that they can control emotionally and practically. However, for displaced people who do not have this sense of belonging, it can be even more alienating. There have been studies [e.g., Guest et al. 2018] that demonstrate that online social or participative learning undertaken in virtual communities may not be popular with them when compared to face-to-face classes. If migrants and refugees already suffer from social isolation, it is not surprising that they prefer classroom teaching, where they can feel like members of the group [Castaño et al. 2018], and not part of online communities where the sense of belonging is considerably lower. Furthermore, environmental factors such as noisy and disturbing environments, or others where there may not be network access or anywhere for mobile devices to be charged, might adversely affect the possibilities for studying online.

Furthermore, open online learning, such as that which takes place in LMOOCs, does not only refer to the learning materials and how their licencing affects their reuse; it also refers to the fundamental nature of the interactions possible online between the students. The free expression of ideas, equality of participants, and mutual respect, necessary for social learning to be a reality is something almost taken for granted in European society, but is far from being the norm in many of the countries where migrants and refugees come from. State control, cultural traditions and other factors can limit the types of learning activities to be undertaken when, for example, women are required to engage in social interaction. It is important therefore, that any LMOOC intended to be used by refugees and migrants, involves emotional and sociocultural scaffolding to enable all participants to engage in communication activities in a way

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[1] https://moocs4inclusion.org/; https://kiron.ngo/

[2] MOONLITE (Massive Open Online Courses enhancing linguistic and transversal skills for social inclusion and employability; ref.no.: 2016-1-ES01-KA203-025731).

that contemplates different circumstances. Such scaffolding needs to be structured into the course in two ways: firstly, during its design and development by the teaching team, affecting its organization and the preparation of learning materials and related activities. Secondly, when the course facilitation and curation take place while it is running. The results of this premise of inclusion should be to generate a "safe and stable" learning environment for all, where any feelings of fear or alienation are removed, and learning is potentiated as an all-embracing process [de Waard et al. 2014].

Even if students taking part in an LMOOC do feel at ease being there, and are motivated to study and interact, it is very important that they are provided with sufficient preparation to understand the value of certain types of interaction and activities to potentiate their learning, when initially these may not appear to have any self-benefit (e.g., peer-to-peer correction of target language production). Students almost always understand the value of being helped by their peers but are more reluctant to do the same for others. However, when they do realise the value of undertaking such tasks, the implicit reinforcement of foreign language rules by applying correction rubrics, they begin to do it more readily. Providing such explanations needs to form part of the course preparation, especially for students like refugees and migrants, who may not be so familiar with online learning.

Another factor that should be considered when designing and developing LMOOCs for displaced people, as a consequence of what has been noted above, is the cultural profile of the materials and activities in the courses. For example, if all actors in the course videos are male Caucasians, they might produce a sense of alienation or detachment for middle eastern and north African students. It is important that such educational resources in a MOOC are (ethnically, aesthetically, etc.) representative of the types of people who will undertake the course and the types of situations in which they will find themselves. For example, some course videos can be prepared with members of these ethnic groups, both as screenwriters, production assistants, or actors.

One of the problems of e-Learning in general, which is particularly relevant for LMOOCs, is that of dropout. Students start the course strongly, follow the materials and participate in some of the activities but, as the course advances, stop doing so, and eventually abandon it. MOOC dropout figures can be particularly high, indicating that most students who start these courses do not ever finish them [Rivard 2013], often up to 85-90%. A distinction needs to be drawn between the so-called "non-starters", who never actually start the course, and those who really want to do so but don't actually reach the end. There are many reasons for students to sign up to a course and then not actually follow it. Above and beyond "over commitment", and a general lack of time to undertake everything they want to do, there are also people who only want to access a course briefly at the beginning to take a look at some of the videos and download the content. It cannot be said that such people are dropping out of the course because they never had any intention to complete it in the way the course developer had planned for them.

However, there is still a core number of students who do start the MOOC with the intention of following it as established, but do not manage to finish it. It may be the case that the course does not live up to their expectations or that there are external factors that limit their possibilities of continuing. Since refugees and migrants are often on the move, with no stable network connection, accessing online learning can be very problematic. A particularly relevant line of research that is being applied at the moment is that of "learning engineering" [Dede et al., 2019], where data analytics is being used

to observe changes in behaviour in online courses. This approach may make supporting refugees and migrants easier, since it might be possible to detect cases where they are beginning to disengage with a course. They could, therefore, be provided with specific support to help them continue during the difficult periods when it might be tempting or easier for them to just give up and stop studying. Furthermore, if displaced people know in advance that during a specific period they will be moving and will not have stable access to the course, if the materials are available in a downloadable form, they can be stored on their mobile device to be studied on their own until it is possible for them to connect again.

It has been argued until now that refugees and migrants have certain requirements that need to be addressed by scaffolding a course both before it is started and while it is running. However, given the amount of time and effort that is required to design and develop an LMOOC, it is reasonable to ask whether it is possible to reuse other courses or whether it is necessary to build them from scratch. The practical answer to this question is that it is not typically possible to reuse existing courses for three reasons. Firstly, because most existing courses are not open for students to use on a permanent basis but have limited and regular opening periods. Secondly, there are not many of these courses around. Thirdly, the courses are not easily adaptable to the specific needs of these people.

As well as LMOOCs, for students with a lower-intermediate level of the target language (an A2 or B1 level according to the CEFR [Common European Framework of Reference for Languages: Learning, Teaching, Assessment]), [Council of Europe 2001], there is also a possibility of studying MOOCs whose focus is not on learning a target language using linguistic exercises and tasks, but on some other topic, that is taught using the target language strategically (i.e., both as a means of instruction and as a learning goal in itself). In this way, students who want to improve their language skills and gain specialised knowledge can do so at the same time. This kind of approach to language learning is generally referred to as CLIL (Content and Language Integrated Learning) [Coyle 2008], and is a dual-focused educational approach used for the learning and teaching of content and language. Therefore, CLIL focuses on learning a language in a context by embedding language learning goals within the tasks. The language being studied indirectly in the course can be termed *sub-language* and is of interest to anyone wanting to develop knowledge of a specialised domain, for example, in order to work or study in a country that uses that language. The problem of using CLIL here, for refugees and migrants, is that, at least initially, they do not typically have a high enough competence level in the target language. While such an approach may not be appropriate to start with, once a certain basic language skill level has been achieved, these MOOCs do represent an effective and efficient way to progress.

A particularly important aspect to be considered in the design of LMOOCs for displaced people is that of how they will actually access and follow the course, in terms of the computing device they will use. The majority of refugees and migrants have some kind of smartphone or tablet, rather than a laptop or portable computer. They might well have had another desktop computer, but when they were forced to leave their home country, such things often had to be left at home, due to their weight and size. Mobile devices represent a lifeline for this group, where they can stay in contact with their family members and access information and resources of use to them as they travel. These devices are the standard way in which most people access information these days, using both locally downloaded material and, to a larger extent, online resources [Read,

Barcena, 2015]. For refugees and migrants, these are pretty much the only option they have. It is therefore necessary, when designing an inclusive LMOOC, to prepare them so that they deploy effectively on these devices. Given the small size of the screens on these devices, and the limited memory that they have, it is important that the audios and videos play correctly and are reasonably small so that they don't require high bandwidth connections or large amounts of storage space if downloaded, and that the activities included are able to be done on such devices. Being able to do the activities offline and then uploading them completed to a given MOOC platform is not typically possible. However, what is possible is to download the materials and undertake the preparation necessary for an activity offline using, for example, by using a text editor, and then, at a later time, upload the results to the platform. As noted previously, in the fluid geographical context in which refugees find themselves as they move on their journeys, some days they may have access to a network connection and others they may not. Therefore, inclusive LMOOC design must contemplate the use of educational resources that can be downloaded and followed offline [Coughlan et al. 2019].

As well as the practical and logistic problems of preparing content and activities for deployment on mobile devices, it is important to remember that the use of such devices offers advantages and disadvantages for those who wish to use them for educational applications. Regarding the former, there are pedagogical reasons for using mobile devices, such as the way in which they allow learning to move from more formal teaching environments into everyday activities [Lieberman 2018]. For displaced people, more formal contexts such as schools and universities, are not an option in the short term. As well as the degree of flexibility that LMOOCs represent, it is also a question of the amount of time these people can dedicate to learning. However, regarding the latter, it should be noted that not all communities and social groups use these devices in the same way. Digital competences are arguably culturally and socially mediated and just because Europeans are happy to share their interactions online in an open and public way does not mean that all human groups are [Traxler 2016]. Once again, given that such participation is important for language learning, especially the productive and interactive competences, any prejudices that refugees and migrants might have in this regard need to be recognised by the course designers and facilitators so that specific activities can be developed that limit problems. For example, a certain degree of anonymity can be provided to LMOOC participants by not forcing them to enter personal data into the platform when registering for a course.

3   A Design Proposal for Inclusive LMOOCs

As part of the MOONLITE project mentioned above, research on previous LMOOCs and other relevant courses using CLIL methodology [Traeger et. al. 2018] was carried out following a study of the profile and needs of refugees and migrants in Spain. Existing LMOOCs were found not to have been designed in a way that was compatible with their needs and characteristics. The conclusion reached was, therefore, that the most adequate and effective course of action would be to produce new LMOOCs, *ad hoc*, as opposed to reusing or repurposing existing courses, because they were far from reaching the standards required to be effective for the most vulnerable participants. After the needs analysis undertaken by the research group [Traeger et. al. 2018], it

became evident that the most urgent didactic support was needed for the initial levels, namely A1-A2, of the Spanish language.

The needs analysis was based on qualitative data collected from surveys, interviews and observation during the meetings and workshops organised by the research group and attended by teachers, refugees and migrants from NGOs and support groups. These stakeholders responded to a survey designed to record their perspectives, experiences and knowledge pertaining to their personal circumstances and learning requirements, online learning and MOOCs. Interviews were undertaken with experts on the subject of the integration problems faced by refugees and migrants in order to supplement the information generated by the questionnaires.

Our starting assumptions were confirmed through interrogation of the aggregated information. In spite of their diverse profiles, the primary need shared by refugees and migrants was found to be learning the language of the host country for social interaction and entering the employment market. The deployment of LMOOCs incorporating adaptability focused criteria and scaffolding on smartphones was proposed as an appropriate course of action for migrants and refugees to enhance their language abilities and possibilities of finding a job.

Once the stakeholders were informed about the design principles and deployment strategies behind an effective LMOOC, they were given the opportunity to discuss their level of involvement and to prioritise the areas where they felt required support for their classes. Spanish for beginners (A1-A2 according to the CEFR) was unanimously singled out. Finally, a decision was made to create two inclusive MOOCs lasting 25 hours (corresponding with 1 ECTS) as opposed to one larger MOOC.

The macrostructure and the microstructure of the courses were agreed upon in a Design Thinking [Dorst 2011] workshop undertaken with the collaborating groups. Design thinking relies on the human ability to be intuitive, to recognize patterns, and to construct ideas that are emotionally meaningful as well as functional. The elements of Design Thinking combine to form an integrative and iterative approach. During this brainstorming process, the topics, contents and actors to be used in the courses were established, as well as the distribution of course responsibilities within the development team. This is how the teaching teams consisting of Spanish teachers and students from the project's support entities worked collaboratively in the design of the course structure and materials. Their work was coordinated by the management team, which included both MOONLITE's research team and the Spanish as a Foreign Language expert group from UNED.

Two inclusive Spanish LMOOCs called "Open doors: Spanish for immediate needs I & II" (*Puertas abiertas: español para necesidades inmediatas I y II*) were were designed, developed, and implemented on UNED's MOOC platform, a version of OpenEdX. Their first edition ran for six weeks in the first semester of the 2018-19 academic year. Dissemination of the courses was carried out locally in different ways: physical advertising in the form of printed posters, a quarterly project e-newsletter which was sent to NGOs and support groups working on language training with refugees, informative posts on social networks such as Facebook and Twitter, language teaching professional email distribution lists, national radio coverage, and advertising on the UNED website.

Course contents were designed for the most common communicative situations that migrants and refugees face in host countries, such as refugee-specific administration, commuting within the city, finding accommodation, using medical services, using their

civil rights, etc. Four independent situation-specific modules (as can be seen in table 1 below) were used for both courses in accordance with the pedagogic philosophy in LMOOCs by which the needs and interests of students are to drive the learning process within a highly flexible structure [Barcena, Read 2015]. The courses were designed to be completed in a period of six weeks: the first week was intended to introduce students to the course so that they could become familiar with the platform, the following 4 weeks were dedicated to the 4 modules, and the final week was devoted to the completion of tasks not already finished. It is to be noted that a total of 9 short videos were recorded to assist participants with different administrative and academic aspects that might present difficulties to them, such as how to enrol in the course, how to view videos, how to download materials to follow the course offline, and how to obtain the final certificate, among others.

Course 1	**Module 1**	Introductions, administration and bureaucracy
	Module 2	Routines and daily life
	Module 3	Travel and moving around
	Module 4	Going to the doctor
Course 2	**Module 1**	Leisure time and socialisation
	Module 2	Looking for housing
	Module 3	Training and employment
	Module 4	Defending rights

Table 1: Structure of the two Spanish LMOOCs developed in MOONLITE

The LMOOCs were designed to be undertaken autonomously or by following a blended approach, so that they could be used to support the face-to-face classes at the NGOs and support centres, following the teachers' precise indications. This double modality influenced course design, for the different modules needed to be independent of each other in case the teacher decided to use only selected points. For those students working through a course autonomously, discussion forums were supervised and scaffolded by the teaching team. The teaching team was made up of members from these entities working together as tutors (with mainly an academic role, to provide guidance and pedagogical support) and facilitators (with a supportive practical role, mainly in the course forums). The group of facilitators was composed of teachers as well as postgraduate students of Spanish as a foreign language. Additionally, it included refugees and migrants from collaborating entities, who were not only already proficient in the language but had also gone through the process of arrival and adaptation in Spain and, as such, could serve as mentors to the course participants.

The modules are designed in such a way that there is an incremental increase in the level of difficulty of the grammar, vocabulary, etc. used in each module (e.g., verb tenses, structure coordination and subordination etc.), although students can alter the proposed chronogram according to their needs. Course materials primarily use audio-

visual components (videos, audios, images, infographics, etc.), while course activities are based on both self-evaluation and peer-to-peer activities (in the second course) facilitated by the tools available on the (rather rudimentary) platform. The forums and social networks (such as a Facebook page to which participants were redirected in some activities) serve the social aspect of the language courses, which was seen to be of great importance by all parties involved.

Five categories of inclusion, based on the aforementioned needs analysis and related literature, were used to structure the instructional design process of both LMOOCs: 1) technology, 2) linguistics, 3) pedagogy, 4) culture and ethics, and 5) institutional policy. The most noticeable technological criterion is related to the design of LMOOCs for mobile deployment [de Waard et al. 2014; Moser-Mercer 2014; Colucci et al. 2017] apart from accessibility in general [Jansen, Konings 2017]. In the inclusive LMOOCs presented here, materials and activities were designed to be implemented, viewed and carried out on mobile devices and it was established that all contents (placement, colours, etc.) had to be accessible in that sense. In addition, downloading all course materials (audio, video and PDF) for offline access was equally taken into account.

With respect to the linguistic criteria, the language used was in line with the initial level of the course, and audio and video recorded were at moderate speed. Additionally, attention was paid to the multilingualism of the potential users. In order to address this issue here, subtitles and transcriptions were used in Spanish as well as three other common languages (Arabic, English and French). The 'How to study the course' video, for example, offered subtitles in these four languages too. The videos used in the course modules included transcripts in Spanish only for pedagogical (and accessibility) reasons. However, transcriptions of pedagogical guides for potentially difficult aspects of the course and glossaries of the key vocabulary in the different modules were included in the four aforementioned languages (see figure 1). These four main languages for transcriptions and subtitles were identified in the initial needs analysis as the languages that migrant and refugee students in Spain might have in common. In addition to being encouraged to use the target language in the interaction with other participants in forum discussions, students were allowed to use their own language or a second language of their choice.

Vocabulario	Explicación y ejemplo	English	Français	العربية
(Estar) a dos calles	La distancia es de dos calles. *Ejemplo: Mi casa está a dos calles del parque.*	Two streets away	À deux rues	على بُعد شارعين

Figure 1: Sample of the course glossary

The most important pedagogical criteria were the focus on the target group (and its diverse profiles and requirements) and the use of multimodality with an emphasis on audio-visual content. The use of plain text was kept to a minimum and any text that was used was accompanied by an image, video or audio, in order to facilitate comprehension for participants who may have a lower level of literacy in the Latin alphabet. An example of course content involving image, audio and text is shown in figure 2.
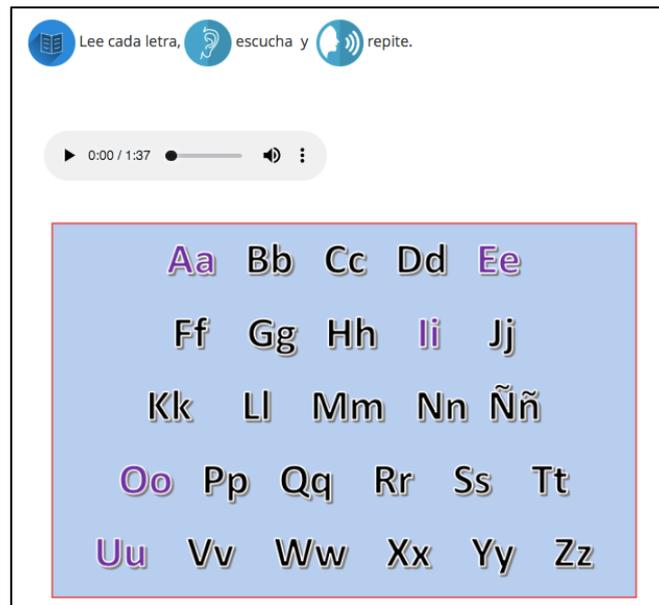
Figure 2: Example of a multimodal activity

With respect to the cultural and ethical criteria, all materials were developed taking into account the diversity of participants' cultural identities, as can be seen in figure 3. Firstly, as mentioned above, learning styles with a tradition based on oral transmission were prioritised, with the predominance of activities being based on image, audio and video [Kolb, Kolb 2005]. Secondly, for those who preferred explicit instructions, optional extensions were created with grammatical explanations together with examples and ideas on how to practice them, either individually or, preferably, with other partners. These extensions were available on demand, at a click, next to the related linguistic aspect under study. An explanation of relevant Spanish cultural considerations was included in each module to promote cultural and intercultural competence. In addition, the activities in the forums were generally based on (inter-) cultural discussions between course participants. Prior to the start of the courses, scaffolding recommendations were given to facilitators so that they would know how to react in the forums if the netiquette was not observed, particularly given the sensitive state of the most vulnerable participants (see [Barcena et al., 2020], for a detailed analysis of how this aspect was successfully accomplished in the first of the two courses developed and the positive emotional and cognitive effects caused overall).

Amin es peluquer**o**	Saira es peluquer**a**	Zuheir es jardiner**o**	Samah es jardiner**a**
Ahmed es camarer**o**	Ashanti es camarer**a**	Tetyana es ama de casa. Anton es am**o** de casa también.	

Figure 3: Example of material with attention to diversity

The more advanced students helped translate the videos and audios for the transcriptions and corresponding glossaries into Arabic, under their teachers' supervision. In the course development process, other displaced people keen to collaborate with the initiative of the LMOOCs participated in the course's piloting phase, testing contents and activities and providing feedback on usability, etc., to the course developers. In total, three pilot sessions were carried out before launching the first edition of the LMOOCs, with the assistance of highly heterogeneous groups of displaced people (according to age, nationality, native language and time spent in the host country). Finally, in the implementation process, some of them were appointed as mentors to assist in the facilitation of forums when participants use languages unknown to the teaching staff.

With regard to criteria related to the institutional policy, some of the defining features of MOOCs are inclusive by nature since, for example, potential participants are not required to submit academic or administrative documents of any kind to enrol in the course. Another feature aimed at providing flexible learning was that access to course content and materials would remain available to registered participants after course completion at no cost. Furthermore, course registration was free, as was access to all course materials (which are open educational resources with a Creative Commons license) and even the final certificate was free as well (after reaching a formal agreement with the host university). This certificate that could be requested optionally once the course was completed follows the standard institutional structure and includes the student's full name, the equivalent of 1 ECTS credit (25 hours of study), as well as the syllabus describing the contents covered in the course. This follows the inclusive philosophy of the MOONLITE project, since recognition, certification and accreditation of non-formal learning are seen to be crucial for displaced people in order to reach social inclusion, improve their entrance into the labour market and access Higher Education [Witthaus et al. 2016] in highly burocratized European countries.

4   Conclusion

This article has presented key aspects to be taken into consideration for the design, development and deployment of inclusive LMOOCs. After undertaking a needs analysis of the population of refugees and migrants in Spain and their expert teachers at NGOs and support groups, a set of inclusive design criteria were identified that would need to be taken into account when designing and developing an LMOOC. These criteria were divided into a set of five categories: technology, linguistics, pedagogy, culture and ethics, and institutional policy. Inclusion was not only present in course design but in its development and its deployment phases too. Not only were the courses tailored to include displaced people, with unstable living conditions, who have often suffered considerable trauma, the whole preparation process, from the beginning to the end, aimed to boost their self-esteem, and create a bond with their teachers and their host community without losing touch with their background and identity. In the process of designing the courses' content and structure, migrants and refugees were included in the selection of the topics and contents as part of a face-to-face Design Thinking session. In addition, they participated as scriptwriters of the video and audio dialogues and as the main actors in them (together with their teachers), as can be seen in figure 4.

Figure 4: Refugees and migrants on the course videos

This article has tried to show that the success of the Spanish LMOOCs developed in the context of the MOONLITE project lies in the extensive collaboration of all the parties involved: the end users and stakeholders (higher educational institutions, NGOs, and support associations). Each of these provides complementary know-how, skills, competences, experiences, and resources necessary to help refugees and migrants with their rightful aspirations of achieving social inclusion and employment, and advance together toward a more inclusive Europe.

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