

A survey on the pedagogical features of language massive open online courses

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Abstract

Purpose – This paper examines the pedagogical features of massive open online courses (MOOCs) for language learning—known as language MOOCs. The mainstream pedagogy of MOOCs typically involves the provision of short videos and reading materials for self-study; discussion forums, mostly for peer-to-peer interaction on course content; and machine-graded quizzes for self-assessment. For language learning, which has been conventionally understood as skill development, the pedagogical features of relevant MOOCs have yet to be comprehensively surveyed.

Design/methodology/approach – This study surveyed a total of 123 language MOOCs from the major MOOC platforms. The pedagogical features shown in these courses were identified and categorised according to the types of course materials and learning activities as well as the participation of learners and instructors.

Findings – English was the most common language taught in the courses. Over 80% of the courses took not more than six hours to complete. Most of these courses followed the typical approach of xMOOC delivery, with video watching, reading and auto-graded assessment being the most common learning activities. Less than half of the courses included discussion as part of learning, and instructors were involved in less than 30% of the discussion.

Originality/value – The findings show that, despite the technological advances in course delivery, current language MOOCs do not differ substantially from conventional distance language learning. Yet, the utilisation of computer-assisted language learning technology and the massive student base of MOOCs for creating a virtual social community are opportunities for developing learners' language proficiency on this learning environment.

Keywords Massive open online courses, MOOCs, Language learning, Pedagogical features

Paper type Research paper

Introduction

Massive open online courses (MOOCs) refer to the online courses characterised by open access and scalability in student enrolment. Since their emergence in 2008, MOOCs have become all the rage. According to *MOOC List* [1], a comprehensive search engine for MOOCs, there are more than 120 MOOC providers worldwide. Coursera, as the most “massive” MOOC platform, offers more than 5,100 courses which have been taken by above 77 m students [2].

The unique learning environment of MOOCs produces a potential paradigm shift in teaching and learning, with language learning being no exception. For example, the MOOC learning environment promotes the use of audio-visual materials, oral and written interaction among language learners for collaborative learning, and ubiquitous and autonomous learning at the learners' own pace, as well as the sharing of Internet-based resources (Chacón-Beltrán, 2017). Also, the student–teacher ratio in MOOCs, which can be 10,000:1 or even worse (Nguyen *et al.*, 2014) has changed the practice of language teaching normally accepted in conventional face-to-face or distance learning contexts.



This paper reports on the pedagogical features of current MOOCs for language learning—referred to as language MOOCs (Bárcena and Martín-Monje, 2014)—in order to reveal the general developments of language learning in MOOCs. It profiles a representative sample of the language courses available and categorises their characteristics. The discussion highlights the potential of MOOCs for language learning, such as the use of computer-assisted language learning (CALL) technology and the adoption of innovative pedagogy models to capitalise on the massive student base.

Related work

MOOCs feature openness and scalability. Most of the courses are open for learners to enrol in for free and have a vast number of students. This makes infeasible many teaching methods commonly used in conventional face-to-face or distance learning contexts. For example, taking into consideration that the median number of student for each MOOC is 33,000 (Kolowich, 2013), it is very difficult for instructors to take care of students' diverse individual needs.

MOOC pedagogy can be typically categorised into xMOOC and cMOOC. xMOOC is commonly described as being driven by the cognitive-behaviourist principles (Rodríguez, 2012). It uses a tutor-centric model and develops a one-to-many relationship to reach a massive number of learners (Perifanou and Economides, 2014). cMOOC is based on connectivism, which highlights the importance of openness, interactivity, social network diversity, peer-to-peer learning and emergent knowledge (Perifanou and Economides, 2014). It should be noted that xMOOC and cMOOC are not in a binary distinction. Rather, “each MOOC is profoundly shaped by its designers, teachers, platforms and participants” (Bayne and Ross, 2014, p. 25).

The teaching of MOOCs is characterised by the use of online forum interaction, short videos and exercises which are auto-graded or peer- and self-assessed. As reviewed by Glance *et al.* (2013), each of these activities has its own pedagogical foundation, and “there is no reason to believe that MOOCs are any less effective a learning experience than their face-to-face counterparts” (para. 1). For example, watching of videos followed by short quizzes provide students with an opportunity for retrieval learning (Agarwal *et al.*, 2012; Karpicke and Roediger, 2007). Wong (2015) showed that MOOC platforms also have their own pedagogic orientations. For example, the courses on Coursera and edX use videos more extensively in general, while FutureLearn and OpenLearning have more active social interaction. Wong (2016) summarised the key factors for effective teaching in MOOCs, covering the various stages of course delivery—from preparing a course to attracting learners' interest, increasing their participation, promoting interaction, enhancing consolidation and offering post-course support.

The present MOOC pedagogy raises the question of whether MOOC, in its current form, is suitable for language learning. Learning of a language, especially a second language, involves the acquisition of the relevant knowledge and skills, which are categorised as reading, writing, speaking and listening, together with the grammar, vocabulary and pronunciation of the language. A language learner needs to put “into practice an intricate array of receptive, productive and interactive verbal (and non-verbal) functional capabilities, whose role in the overall success of the communicative act is generally considered to be more prominent than that of the formal or organizational elements” (Bárcena and Martín-Monje, 2014, p. 2). In this sense, one critical factor in the success of a language MOOC lies in the extent to which students have the opportunities to practise, rather than just understand, memorise and reproduce what they have learned in the course.

Quality feedback is another key area in language learning. The presence of teachers, native speakers of the language or peer learners is therefore commonly emphasised in language learning activities so that learners have opportunities to practise and gain constructive feedback for correction and improvement (Vorobyeva, 2018).

Despite MOOCs having gained increasing attention worldwide, their development for language learning has been stated only for a few years. Bárcena and Martín-Monje (2014) found that, there were only a few academic articles related to MOOCs for language learning between 2011 and 2014. Two of the largest MOOC platforms, Coursera and edX, only provided language courses for some major languages, mainly English and Chinese. Perifanou and Economides (2014) evaluated the instructional design of 16 language MOOCs and found that most of them did not offer an interactive environment for learners to connect themselves to a language learning community and learn collectively. The challenge of engaging learners in social learning and interaction has also been reported by Beaven *et al.* (2014), who surveyed learners' motivation in a language MOOC and showed that they generally did not meet peers in the course who shared similar interests for interaction and collaboration. Vorobyeva (2018) noted that some MOOCs for language learning do not even attain a reasonably acceptable quality, in terms of lacking activities for learners to practise and gain feedback on areas such as writing and speaking. Martín-Monje *et al.* (2018) analysed an MOOC on learning English and showed that its learners mainly accessed the video resources only without engaging in online interaction and automated grading activities. These findings reveal potentials problems of existing language MOOCs.

There is thus a need to examine the latest developments of language MOOCs, particularly covering a wider range of relevant MOOCs in various platforms. This will facilitate researchers and practitioners from relevant disciplines to keep themselves abreast of such developments, to identify research problems and potential research directions, and to develop effective pedagogy for teaching languages in MOOCs.

Methodology

This study investigated the pedagogical features for language learning in MOOCs. It aimed to (1) collect information on language MOOCs and (2) identify and categorise their pedagogical features.

Information on language MOOCs was gathered from several sources. The platform *MOOCList* [3] was used to search for the language MOOCs. To collect the language courses which may not be included in *MOOCList*, the top three largest MOOC platforms in terms of the number of courses provided—namely, Coursera, edX and ALISON, according to the study by Li *et al.* (2014)—were also accessed to search for the language-related courses. Each of the courses collected was accessed. Those which were not closely related to language learning or did not allow enrolment were excluded. This resulted in a total of 123 relevant MOOCs.

Each course was registered and enrolled in order to log in to the course page for collection of relevant information. The following categories of information about each course were collected:

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- | | |
|---------------------------|--|
| (1) Platform | (1) Learning activities |
| (2) Duration | (2) Assessment types |
| (3) Language taught | (3) Learners' time spent on learning and assessment activities |
| (4) Medium of instruction | (4) Instructors' participation in online discussion |
| (5) Course materials | |
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Findings

The collected information was categorised into general information, course materials and learning activities and online discussion.

General information

Table 1 shows the platforms of the MOOCs for language learning and the relevant languages offered. Coursera and ALISON are the platforms offering more than half of the language courses in total, followed by edX and FutureLearn. In the languages offered, English is the most popular, followed by Chinese and Spanish.

Table 2 shows the duration of the courses in terms of their numbers of hours. It appears that various platforms have their preferred kinds of course lengths. The courses in ALISON and Coursera are mostly short ones, lasting only one to a few hours. Udey does not specify the duration of its courses, which are all self-paced by learners. OpenupEd tends to offer long courses, with two lasting for over 200 h.

Most of the courses use English as the medium of instruction, especially in lecture videos. A few courses use other languages on the course pages. For example, the course “Essentials for English Speeches and Presentation” offered in Coursera uses a lot of Chinese materials to supplement the English notes. There is only one course, “Advanced Spanish Language and Culture” in edX, which uses Spanish as the medium of instruction for the entire programme.

Course materials and learning activities

Figure 1 illustrates the different types of course materials used in the language MOOCs. As a typical feature of MOOCs, videos and text materials are the most common types of course materials made available to users.

Figure 2 displays the popularity of different learning activities in the MOOCs. In the broad range of course materials, watching videos and reading text/graphic materials show high frequency of use; and discussion is also a major type of learning activity. However, activities on writing and speaking are not commonly found in these courses. Students may not have the opportunity to practise after watching, reading or listening to the course materials. Although not widely used, students may be involved in peer review of assignments and team tasks such as discussion for generating ideas on assignments. A few courses offer tutoring sessions for students through their online instructors.

Figure 3 shows the types of assessment employed in the MOOCs. Exercises are the most common type, usually as follow-up activities (such as a chapter review, games and short questions) after watching videos or reading text materials. Many courses have final assessments as well as assignments or quizzes. It is worth noting that no major differences were found in the kind of exercises, assignments, mid-term quizzes and final assessments across the courses.

Figure 4 summarises the proportion of time in MOOCs that learners are expected to spend in the learning activities (watching videos, listening to audios, reading articles, and completing exercises) and assessment activities (taking quizzes and completing assignments). The 36 MOOCs on Coursera were analysed for this part. The information on time was based on sources such as the duration of the videos and audios, and the time suggested in relevant MOOCs to complete the activities.

Watching videos is the most common activity used in all the 36 MOOCs, among which 67% of the MOOCs had this activity contributing to 10% or less of the course time; and 22% of the MOOCs had videos contributing 11–20% of the course time. Despite videos being the most common type of learning materials in the language MOOCs, the results showed that the actual proportion of time expected to be spent by learners on watching videos was not high in general.

MOOC platforms	Duration (number of courses)					Self-paced	Total	Pedagogical features of language MOOCs
	1–3 h	4–6 h	7–20 h	72 h	225 h			
ALISON	30		5				35	121
Coursera	13	20	3				36	
FutureLearn	8	8					16	
edX	6	10	2				18	
Udemy						7	7	
OpenupEd				2	2		4	
iVersity						1	1	
Canvas	1	1					2	
MOOEC		1					1	
OpenLearning	1						1	
Open2Study	1						1	
Stanford OpenEdX		1					1	
Total	60	41	10	2	2	8	123	

Table 2. Duration of the courses

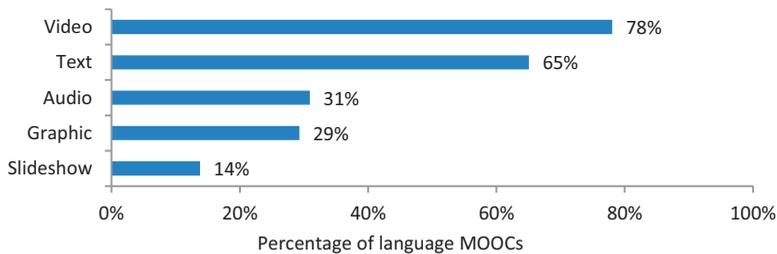


Figure 1. Course materials of the MOOCs

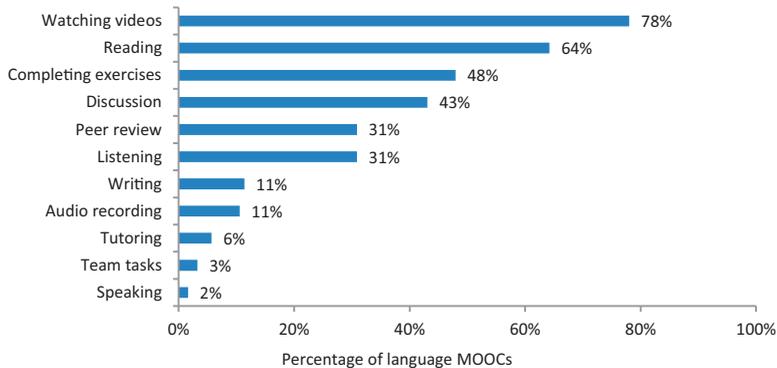


Figure 2. Learning activities in the MOOCs

Listening to audios was adopted in only 11 (36%) language MOOCs and contributed 10% or less of the course time for all these MOOCs. This finding shows that audio is a relatively infrequent type of materials for language MOOCs.

Reading articles contributed various proportions of course time: 0–10% for 23% of the MOOCs; 11–20% for 40% of the MOOCs; and 21–30% for 20% of the MOOCs. In general the courses on teaching the grammar of languages provided relatively more or longer articles as course materials.

Completing exercises was used in 86% of the MOOCs, among which 42 and 32% of them had exercises contributing 11–20% and 0–10% of the course time, respectively. In general the courses on teaching pronunciation and business languages provided more exercises. The course “Grammar and Punctuation” had exercises which required learners to spend more than 60% of the course time on them.

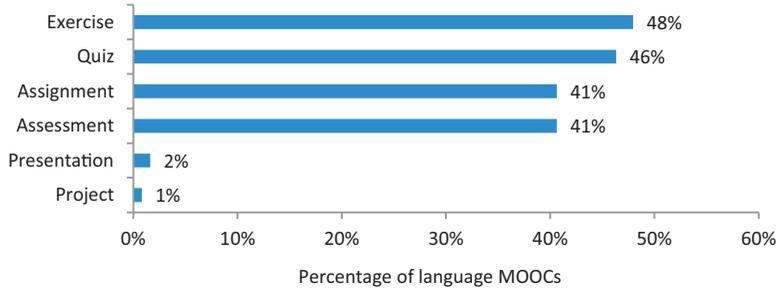


Figure 3.
Assessment types in the MOOCs

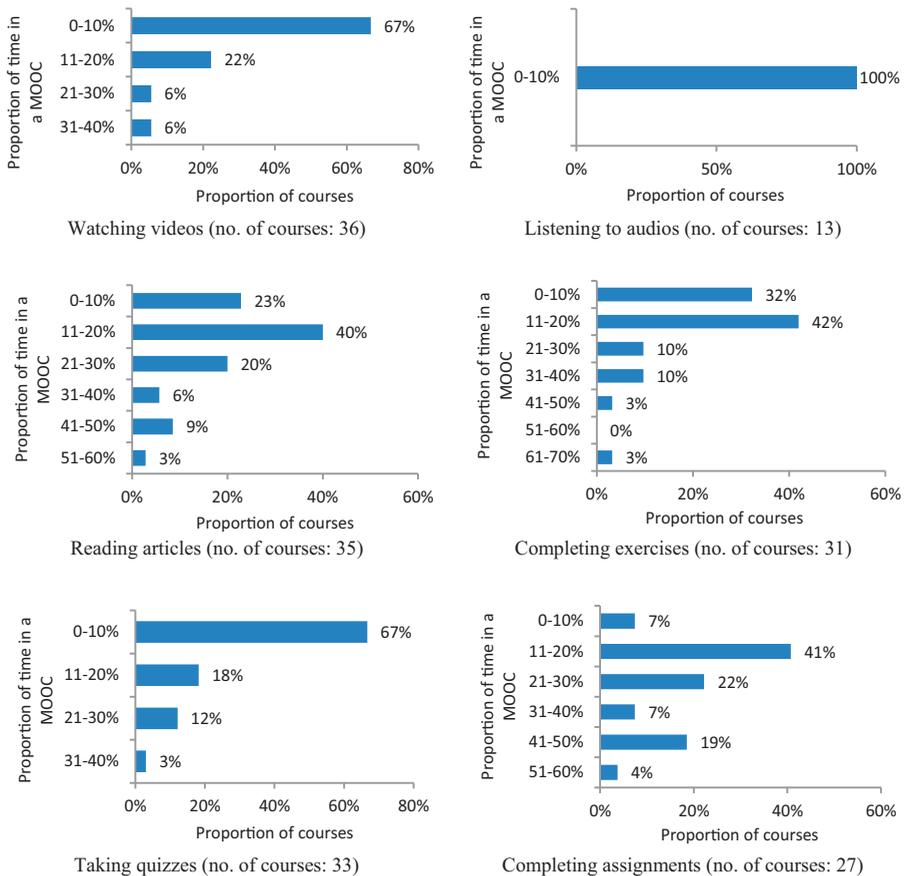


Figure 4.
Proportion of time spent on learning and assessment activities for the language MOOCs on Coursera

Taking quizzes was used in nearly all the MOOCs (33 out of 36) as an assessment activity. Overall, it took a small proportion of the course time, with 67% of the MOOCs having quizzes contributing 0–10% of the course time. Interestingly, quizzes seemed to be an assessment activity more commonly used for the courses on teaching the Chinese language. All the 5 MOOCs on the Chinese language were within the top 10 MOOCs with the highest proportion of course time on quizzes.

Completing assignments contributed a relatively large proportion of the course time—41, 22 and 19% of the MOOCs had assignments contributing 11–20%, 21–30% and 41–50% of the course time, respectively. The assignments were usually peer-graded, and in the formats of both written text and voice recording.

Other than the above learning and assessment activities, there were also other activities which were used in a few courses, such as game-playing, discussion and team tasks. They involved only a small proportion of the course time.

Online discussion

Figure 5 shows the availability of discussion forums in the MOOCs. Only 74% of the courses have one or more discussion forums, indicating that some courses do not involve interaction among learners—just one-way delivery of course contents. For many courses, the percentage of the number of discussion threads to the number of students is only around 0.1% or lower. For example, the course “Fundamentals of English Grammar” in ALISON has 105,091 students enrolled, but only 839 threads in its discussion forum.

Figure 6 presents the extent of instructor participation in the discussion forums on the courses. It displays the percentage of discussion threads in which instructors were involved in the first 30 threads of the discussion forums. Instructors may participate in discussion by creating new posts or responding to the existing topics initiated by students. The instructors’ presence was rare in the discussions. In the courses with discussion forums, 77% did not have any instructors involved. At the most, the instructors participated in 10–12 discussion threads out of 30.

Figure 7 presents the types of instructors’ participation in the discussion forums (for the first 30 threads) and the percentage of each type of participation. It was found that the

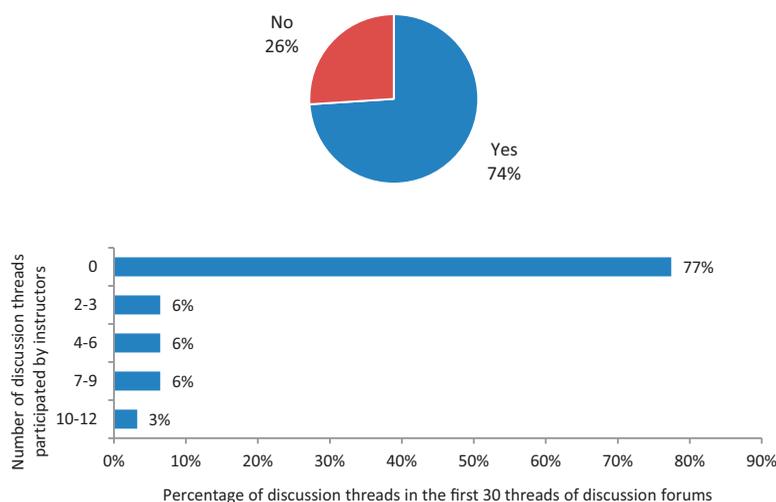


Figure 5.
Availability of
discussion forums in
the MOOCs

Figure 6.
Instructors’
participation in course
discussion

participation of instructors may not be related to teaching (such as participating in discussion and sharing, as well as offering suggestions and feedback), but simply having informal social interaction with learners, greeting learners in the forums, providing technical support or responding to questions concerning course administration.

Discussion

The profiling shows the overall pattern of language learning in MOOCs. In line with the observation that most MOOCs tend to adopt xMOOC features, such as short videos, auto-marked quizzes and peer/self-assessment (Glance *et al.*, 2013; Wong, 2015), those for language learning, as illustrated above, are no exception. For language learning, however, it has been suggested that the connectivist model would be more suitable, as learners may participate in the extensive interaction in negotiation for meaning (Cook, 2015) and for practising the different language skills acquired in the courses (de Larreta-Azelain, 2014).

The pedagogy features of language MOOCs, as shown in the results of this study, reveal its limitations in providing comprehensive training for learners in all areas of language learning. Despite some areas, such as vocabulary learning (Chacón-Beltrán, 2018), the learning and assessment activities of the MOOCs—mainly video watching and article reading, together with exercises, quizzes and assignments in the written form—may have constraints in developing particularly learners' pronunciation and oral proficiency, where opportunities for practice and quality feedback from teachers or peers have been regarded as key to success (Martín-Monje *et al.*, 2018; Vorobyeva, 2018). To alleviate the limitations, initiatives such as motivating learners to actively help their peers through offering badges, prestige or privileges (Chacón-Beltrán, 2017; Li and Wong, 2019) would give learners more opportunities for practice and feedback through the interaction. Also, offering learners additional training on learning techniques could be introduced that, as shown in Luo (2020), would promote students' more efficient use of the MOOC platform and improve their language proficiency.

The massive student base of MOOCs could serve as a resource to facilitate collaborative language learning. Relevant ideas have been put forward for more than a decade (Bernard *et al.*, 2000; Gruba, 2004). In this study, it was found that only a few courses have such learning activities. For example, students from the course "English Composition I: Achieving Expertise" in Coursera have to form groups and complete a writing project collaboratively. The purpose is to introduce certain features of the cMOOC model into the present practice, for offering students more opportunities to practise their language skills through engaging in social communication with peers. The online learning environment also facilitates the use of social media tool in learning. Ventura *et al.* (2014) point out the potential benefits of social feedback on students' written production and their engagement in courses. Sun (2014) also

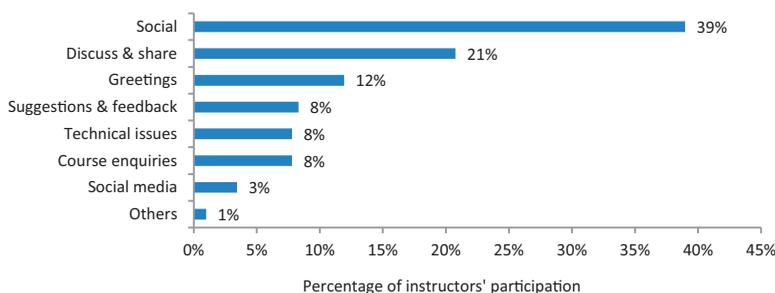


Figure 7. Types of instructors' participation in the discussion forums (for the first 30 threads)

suggests that the use of social technologies could regulate and oversee students' learning progress and directions.

This study revealed how language teachers may capitalise on the unique features of the MOOC environment and available technologies. Current technologies provide opportunities for online teaching. For example, the course "Essentials for English Speeches and Presentations" in Coursera asks students to complete an assignment using a mobile app which automatically rates students' accuracy in pronunciation through speech recognition technology.

In addition, it has been found that teachers' presence in the courses has been rarely given, as seen from their lack of activity in the discussion forums and the lack of tutoring session in the courses. Despite the fact that social interaction features, such as forums, have been commonly provided in the courses, this did not lead to the teachers' active presence. As noted by [Krejinska et al. \(2003\)](#), "one cannot take for granted that participants will socially interact simply because the environment makes it possible" (p. 8). The teachers' presence has been identified as a leading feature that contributes to successful MOOCs ([Cohen and Holstein, 2018](#)). The results call for the formulation of measures to support teachers' work, not only in planning and developing course contents but also managing the class atmosphere and student engagement through their presence in the courses. For example, [Chacón-Beltrán \(2017\)](#) proposed having student tutors who can take up part of teachers' roles.

No major differences were evident between the language MOOCs surveyed and conventional distance language learning. [Sun \(2014\)](#) points out that the difficulties of online language learning may include keeping oneself motivated and self-directed, following the study schedule, socialising, pairing/teaming up with classmates and working collaboratively. Self-regulation of learning is a challenge for distance language learning ([Bernard et al., 2000](#)), so a breakthrough in this respect is very much needed and the growing popularity of MOOCs calls for a greater effort in this direction.

Conclusion

This paper has presented the current status of language MOOCs by profiling the pedagogical features of available courses. It contributes to addressing the research gap for effective pedagogical practices in online language learning.

The available language MOOCs do not differ in any major way from those in other disciplines. This raises the question of the extent to which students can enhance their language proficiency by going through learning materials (such as videos and reading texts) and completing auto-graded exercises in the courses without substantial involvement in real practice or language use.

There is potential for MOOCs to advance language learning. The utilisation of computer-assisted language learning (CALL) technologies, which have been around for decades and have resulted in mature applications, is one possible and feasible direction. The integration of MOOCs with augmented reality or virtual reality technologies which have been increasingly adopted for language learning is also a way to enrich learners' language exposure ([Li and Wong, 2021](#)). Another approach lies in the adoption of MOOCs for flipped classrooms, which has been shown to be effective for coping with the limitations of MOOCs, allowing students to engage in face-to-face interaction in classrooms. This approach would be helpful in areas of language learning which have been shown to be difficult by using MOOCs alone, such as oral proficiency training ([Wang et al., 2018](#)).

The massive student base is another potential area yet to be fully capitalised on. MOOCs may provide students with opportunities for engaging in a real social context for online communication through which they can practise, negotiate for meaning and develop their language skills. For language education, as this paper has suggested, MOOCs can be an

effective means of bringing together language learners, enabling them to learn autonomously and collaboratively. Besides, the huge amount of data generated from the massive student base can greatly support the use of learning analytics to gain more insights about language learning on the MOOC environment (Wong, 2017; Wong *et al.*, 2018; Zeng *et al.*, 2020) and inform the development of personalisation features for learners (Li and Wong, 2020).

What MOOCs present, in addition to bringing affordable and accessible education worldwide (Bartholet, 2013), is a broad range of research opportunities in areas such as improving educational delivery and examining new ways to learn and teach on this environment (Glance *et al.*, 2013). This paper calls for further studies on the pedagogy of MOOCs for effective language learning.

Notes

1. <https://www.mooc-list.com>, as of 27 December 2020.
2. <https://coursera.org>, as of 7 January 2021.
3. <https://www.mooc-list.com/>

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