



Teaching English for general purposes through a MOOC in higher education: A quasi-experimental study to explore its effects on learner achievement and satisfaction

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Abstract

The COVID-19 pandemic has notably increased the use of distance education, particularly in Türkiye's higher education English courses. Even after the normalisation process, compulsory English courses in Türkiye, the learners of which receive education in English for general purposes, are still being taught via distance education. Such a practice could well be implemented with a massive open online course (MOOC), called a language MOOC (LMOOC). To this end, the current study focused on the development, implementation, and evaluation of a General English Language MOOC (GELMOOC) designed according to the syllabi of Turkish universities. With 2957 participants enrolled, the course's effectiveness was assessed through a single group pretest-posttest design, employing a quasi-experimental study. Accordingly, learners' language achievement levels were assessed prior to and after the GELMOOC treatment. Then, a learner satisfaction survey was also administered post-course. Results showed significant improvements in English proficiency and high satisfaction with the course's content, design, and delivery. The findings highlight the potential of and areas for improvement in LMOOCs in the literature and the foreign language teaching context.

Keywords Distance education · English for general purposes · LMOOC · MOOC · Online language learning

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1 Introduction

MOOCs represent a pivotal development in distance learning, offering open online resources across a myriad of subjects to countless learners. Their prominence, already on the rise pre-COVID-19, surged amid the pandemic as education systems, including Türkiye's, swiftly transitioned to online platforms. This shift to emergency remote teaching spurred extensive research into distance education. Post-pandemic, Türkiye's educational authorities implemented strategies for a return to in-person and blended learning, notably permitting online or hybrid models for university-level foreign language courses, primarily English. This move towards digital and efficient large-class management marks a strategic adaptation to modern educational needs (Council of Higher Education, 2020).

Since their surge in popularity in 2012, MOOCs have attracted global academic interest, with few research focusing on their practical use and theoretical grounds, especially in language learning. Sallam et al. (2022) highlighted the growing attention to language MOOCs but also noted a scarcity of research in this area. In Türkiye, though higher education institutions offer online courses similar to MOOCs, research specifically on language MOOCs, such as compulsory English courses, remains sparse, with limited studies (Bilici & Köroğlu, 2022; Köse et al., 2022; Yaşar & Polat, 2021) and a notable lack of in-depth academic work, evidenced by a single thesis by Yaşar (2020b) in Türkiye. Addressing this global and local research gap, this study introduces and evaluates the GELMOOC, aiming to contribute to the scientific discourse on language MOOCs.

1.1 Massive open online language courses

To grasp the nature of language MOOCs, it is essential first to establish what MOOCs entail. Being an offset of distance education, MOOCs stand out for their innovative approach to teaching and learning, combining cost-effectiveness and wide-reaching educational benefits. MOOCs offer flexibility, allowing learners to study anytime, anywhere, which democratizes access to information through interactive community engagement. They foster a global community of learners with shared interests, enhance understanding of complex concepts, and support the idea of lifelong learning (Bates, 2022; Kaplan & Haenlein, 2016).

Over the past decade, MOOCs have paved the way for a specialized field known as language MOOCs (LMOOCs), first described by Barcena and Martin-Monje (2014) as online language courses aimed at widespread participation and grounded in computer-assisted language learning principles. These courses are notable for their capacity to deliver language education to a broad audience online, overcoming geographical and temporal constraints, a crucial development in our increasingly globalized and multilingual world, as Perifanou (2016a) emphasizes. However, despite LMOOCs' potential for offering accessible language learning globally, research remains scarce. Sallam et al. (2022) found that while there is some scholarly work on LMOOCs, it mostly addresses their practical application over theoretical underpinnings. Moreover, an assessment by Perifanou and Economides (2014) showed that few LMOOCs

have been effectively implemented in terms of interactivity and learning outcomes, signalling the need for further research and development in LMOOC design.

Effective LMOOCs are characterized by several key pedagogical features including learner autonomy, motivation, engagement, interaction, and the varied roles of instructors. Engaging and interactive course content is essential to keep learners focused and motivated. As Dörnyei (1998) states, engagement and interactivity are two essential elements of motivation, so it is crucial to provide a goal-oriented, relaxed, and positive learning environment that enhances language learning with self-directed learners. To this end, lecture videos in an LMOOC should have an element of engagement and interaction so that the attention and interests of learners are maintained (Anderson & Dron, 2011). In line with this, learner autonomy, the ability of learners to manage their own learning journey, is another critical aspect, and instructors may need to support this autonomy, particularly for beginners, by guiding learners on how to organize their learning effectively (Sokolik, 2014). Lastly, instructors play multifaceted roles beyond mere facilitators. According to Castrillo de Larretta-Azelain (2014), they also act as designers of the course structure and tools, organizers, assessors, curators of content, and researchers. This comprehensive approach ensures that LMOOCs offer a rich, supportive environment conducive to language learning.

1.2 Designing a language MOOC

MOOCs are categorized into two types, with connectivist MOOCs (cMOOCs) grounded in the connectivist theory, challenging conventional learning theories like behaviourism, cognitivism, and constructivism (Siemens, 2013). This theory critiques their inadequacy in explaining the swift growth of knowledge and emergence of new knowledge creation facilitated by digital technologies. cMOOCs, which prioritize learning as a networked process among autonomous learners to collaboratively share and build knowledge, are devoid of a fixed curriculum or formal educator-learner relationships, emphasizing stakeholder contributions for learning. Although the cMOOCs seem to be favourable for effective and flexible distant learning environments, connectivism's viewpoint on knowledge is highly criticisable as it creates a paradox of learning, which poses the question of how a pattern of knowledge is recognised and why it is formed in such a pattern in the first place (Clara & Barbera, 2013). This paradox results in a chaotic learning environment where learners with little to no autonomous learning experiences may get lost without any instructions or facilitation from the instructor in cMOOCs (Kop, 2011).

Secondly, xMOOCs, the prevalent form of MOOCs, originate from online courses at Harvard University, marked with an 'x' to denote their eXtended online version (Bates, 2022; Kaplan & Haenlein, 2016). Characterized by computer-assisted, automated evaluation, indirect feedback, and forum-based discussions, xMOOCs deliver content through 15 to 50-minute proprietary video lectures and embrace a behaviourist learning theory with a formal, structured curriculum within a rigid schedule (Bates, 2022). This approach, mainly focused on passive knowledge transfer via recorded videos, faces criticism from connectivism advocates for its limited engage-

ment and interactivity in learning (Clara & Barbera, 2013; Kaplan & Haenlein, 2016; Siemens, 2013).

Which type of MOOC to choose when designing an LMOOC is a major question to answer. In this regard, cMOOCs would suit the assumptions of a communicative language approach that provides authentic language input (Sokolik, 2014) and urges learners to collaboratively use language to perform communicative tasks for learning. However, what is described here may be difficult for learners to tackle due to the overwhelming nature of navigating through cMOOCs (Sokolik, 2014). As Brennan (2013) points out, mental factors like cognitive load and learners' background knowledge, or lack thereof, are often disregarded in connectivism and not given place either in practise or theory, which is especially an issue for beginner learners. So, embracing a cMOOC design is most suitable for LMOOCs with learners of more advanced proficiencies.

In that case, as in McLoughlin and Magnoni (2017), turning to xMOOCs is seen as beneficial for novice language learners due to their structured, familiar instructional methods, with literature backing their suitability for beginners (Sallam et al., 2022; Sokolik, 2014). However, criticisms of xMOOCs include their teacher-centred approach, reliance on instructive pedagogy, lack of authentic learning experiences, and excessive use of rote memorization (Clara & Barbera, 2013; Sokolik, 2014). These limitations can be addressed by incorporating communicative environments and authentic materials for a more constructivist learning experience, as Ferguson et al. (2016) suggest. Fidalgo-Blanco et al. (2016) propose a hybrid pedagogical framework that combines the strengths of xMOOCs and cMOOCs, leading to higher completion rates and enhanced cooperative learning attitudes, suggesting that an adapted xMOOC model could better serve the needs of the targeted learner group. In the study's context, therefore, an adjusted xMOOC model would suit the focused learner population.

1.3 Student satisfaction in MOOCs

Despite their potential, MOOCs are not without their controversies and challenges. A critical issue undermining their efficacy is the high dropout rate, with less than half of enrolled learners actively engaging in the courses. Bates (2022) identifies this lack of participation as stemming from several factors, including the need for learner autonomy, insufficient motivation, and diminishing interest in course content. Siemens (2013) further elucidates how these elements contribute to reduced engagement.

Moreover, MOOCs' ambition to make education universally accessible is thwarted by their predominant appeal to young adults from developed nations. This skewed demographic is primarily due to obstacles such as the digital divide, pacing issues, and the absence of community interaction (Aldowah et al., 2019; Christensen et al., 2013), elements that are argued to be crucial for effective learning and knowledge retention. The transition to self-directed online learning poses significant challenges for individuals accustomed to the structured support of traditional educational settings (Kumar & Kumar, 2020).

The role of student satisfaction becomes paramount in this context. Defined as learners' perceptions of their educational experiences (Astin, 1993), student satis-

faction is a critical measure of a MOOC's impact on psychological factors such as motivation levels (Hew et al., 2020). In distance learning, satisfaction is linked to perceived educational quality, underscoring its importance in the development and implementation of distance education programs (Elia et al., 2019; Wu et al., 2010). Astin (1984, 1993) highlights a robust connection between student participation and satisfaction levels, with actively engaged students more likely to be content with their learning experiences. Addressing student satisfaction in MOOC design and evaluation is thus essential for enhancing educational quality and mitigating dropout rates.

Student satisfaction in MOOCs is influenced by both course-related and learner-related factors. Course-related factors encompass the planning, design, and implementation of MOOCs, including the practicality, user-friendliness, and flexibility of the course (Hew et al., 2020; Joo et al., 2018), which, when effectively executed, foster meaningful interactions between learners and the course content, thereby enhancing satisfaction (Gameel, 2017; Shrader et al., 2016). On the other hand, learner-related factors pertain to the individual characteristics of MOOC participants, such as motivational aspects, learner autonomy, determination, and engagement level in the course (Joo et al., 2018; Kumar & Kumar, 2020). The interplay between these factors suggests that a well-designed MOOC can lead to positive learning experiences, underlining the importance of understanding and addressing the determinants of student satisfaction for educators and course designers aiming to optimize the MOOC experience.

1.4 Previous research on LMOOCs

In addition to the studies earlier mentioned to establish the theoretical framework, which generally inform of key concepts and theoretical foundations of research (e.g., Barcena & Martin-Monje, 2014; Castrillo de Larretta-Azelain, 2014; Perifanou, 2016a, b; Perifanou & Economides, 2014), there are also some MOOC studies across the globe with a practical purpose in the field of ELT, holding key value in understanding the potential of such courses in foreign language education (Orsini-Jones et al., 2017, 2018).

Orsini-Jones and colleagues conducted a comprehensive series of studies to explore the integration of MOOCs in English language teacher education across three phases (Orsini-Jones et al., 2018). Findings across the phases of their project highlighted the MOOC's positive impact on learning experiences and ELT student perspectives, despite difficulties in grammar, autonomy, and integrated learning (Orsini-Jones et al., 2017). The project underscored the MOOC's role in enhancing teaching skills, fostering an online community of ELT professionals, and promoting reflection on teaching and learning practices. These insights suggest that further research, including this research study, can deepen understanding and support the development of LMOOCs.

In the Turkish context, while research on MOOCs is on the rise, those particularly on LMOOCs still have a leeway to prosper. Notable contributions by Bilici and K ro lu (2022), Ya ar (2020a), K se et al. (2022) have established a foundation for using MOOCs in English Language Teaching. Their findings reveal the potential of MOOCs as platforms for autonomous learning, offering substantial benefits in

improving communication skills, learner engagement, and satisfaction, particularly in adult English language learning.

The body of literature on MOOCs in the Turkish context indicates a positive impact on learner achievement (Bilici & Koroğlu, 2022; Köse et al., 2022; Yaşar, 2020a). For example, Yaşar (2020a) conducted a study with pre- and post-testing and found that an EFL LMOOC he designed positively impacted language skill development and overall language learning. Similarly, Köse et al. (2022) developed an LMOOC for adult English learners to improve their speaking skills, yielding favorable results. These studies collectively affirm the efficacy of MOOCs and their positive impact on learner achievement in Türkiye.

Studies from other contexts report similarly positive results. For instance, Zhao (2015) found that LMOOCs enhance learner engagement in the target language and help achieve optimal learning outcomes. Research by Mee et al. (2016), Hashim and Yunus (2019), and Sun et al. (2019) also highlight the significant benefits of LMOOCs on student achievement and meeting learning objectives.

As for satisfaction, recent research on MOOCs and LMOOCs highlights that the most influential factors on learner satisfaction are the content and delivery features of a course. Specifically, MOOCs that utilize authentic materials, provide real-world experiences, offer a flexible learning environment, and deliver courses at a suitable pace significantly enhance learner satisfaction (Badali et al., 2020; Ferguson et al., 2016; Gameel, 2017; Kumar & Kumar, 2020; Mulik et al., 2019). The technical features of the platforms on which these courses are delivered also play a significant role. Robust platforms with a high standard of technical infrastructure that can handle large numbers of participants, support multiple devices, and offer learner analytics are associated with increased effectiveness and higher satisfaction levels (Elia et al., 2019; Kumar & Kumar, 2020; Wu et al., 2010; Perifanou, 2016a, b; Perifanou & Economides, 2014).

Additionally, the support and guidance provided to learners are critical in influencing their satisfaction in MOOCs. Continuous and timely feedback and support are reported to prevent high dropout rates, which are prevalent in MOOCs, and to facilitate learner achievement and maintain high satisfaction levels (Aldowah et al., 2019; Bates, 2022; Zheng et al., 2015; Kumar & Kumar, 2020).

In the light of the literature reviewed, the study aims to investigate the effects of GELMOOC on learner achievement and satisfaction in Türkiye, examining MOOCs' role in effective language instruction through distance education. Therefore, the following research questions are explored.

- (1) Does the implementation of GELMOOC have a statistically significant positive impact on the participants' achievement in the pretest-posttest comparison?
- (2) What are the participants' self-reported satisfaction levels regarding the GELMOOC implementation?
- (3) Is there a statistically significant correlation between the participants' posttest scores and their self-reported satisfaction levels?

1.5 Significance of the study

As distance education becomes increasingly popular, especially post-pandemic, understanding the impact of MOOCs on learner achievement and satisfaction becomes critical as they have been one of the most popular means of distance education since the 2010s. Especially in the Turkish higher education context, there are many online courses for various purposes, prevalently in language learning. Although several studies exist about MOOCs and LMOOCs in Türkiye and other contexts, as previously presented, the research still lacks in numbers. To this end, the present study investigates their potential in delivering high-quality language instruction and not only contributes to the sparse literature on LMOOCs but also offers practical insights into their implementation for English language instruction. By contributing to the limited body of research on language MOOCs, the study's findings have the potential to inform educators and policymakers about the practical and theoretical implications of using MOOCs for language education as well, thereby enhancing the overall quality and accessibility of foreign language learning in higher education by means of distance learning.

2 Materials and methods

2.1 Research design

Employing a quantitative methodology, this research utilized a one-group pretest-posttest design, engaging a singular cohort of subjects through whom the experimental procedures are executed (Cranmer, 2017). This design is characterized by an initial pretest to evaluate the specific feature under study, an intervening period of treatment, and a subsequent posttest to assess outcomes for the same group (Creswell & Creswell, 2018). Therefore, the course attendees' EGP (English for general purposes) proficiency was measured as a pretest and posttest, while gathering additional data to enrich the conclusions through an evaluation of student satisfaction levels.

A one-group pretest-posttest design is a type of quasi-experimental research that has some shortcomings with regard to internal validity. Without a control group, attributing changes to the intervention is challenging because other factors might influence results. Natural changes over time among participants, external events, testing effects from pretesting, and changes in instrumentation can all bias outcomes (Creswell & Creswell, 2018). Furthermore, extreme pretest scores often regress to the mean, resulting in misleading findings. The lack of random assignment leads to selection bias, and participant dropout may further skew results, undermining the design's internal validity and making it less robust than designs with a control group and random assignment (Cranmer, 2017).

Despite these disadvantages, employing a one-group pretest-posttest design was deemed most suitable for this study. As for why, including a control group was neither logical nor necessary to answer the research questions because the study aimed to gain insights into the effectiveness of LMOOCs and their potential in foreign language instruction, not to compare them with conventional schooling. Additionally,

internal validity threats were meticulously addressed to compensate for the design's lack of robustness. Conducting the research on an online distance learning platform and gathering participants at the beginning of the fall term minimized the history threat, as no uncontrollable events were expected. The short duration of two months and the similar ages of participants mitigated the maturation threat. The online nature of the GELMOOC platform reduced the threat of subject attrition as with even high rates of dropout, the study could be finalized. The testing threat was addressed by having a two-month gap between pretest and posttest, preventing familiarization with the questions. The instrumentation threat was managed by using valid and reliable tools consistently in both pretest and posttest. Finally, regression to the mean was avoided by selecting participants with beginner-level English proficiency and no extreme pretest scores.

2.2 Development and dissemination of GELMOOC

GELMOOC is an online English course for EGP learners in Turkish higher education, acting as a study intervention with a syllabus derived from the English offerings of four state universities. Through a meticulous process, a 14-week syllabus featuring 24 lecture and 4 revision units was crafted, aligned with beginner-level CEFR standards and integrating structural, functional, and thematic elements suitable for distance learning. Taught primarily in Turkish, which supports beginner learners by incorporating their first language as recommended by research (Pan & Pan, 2010), GELMOOC utilizes an instructional methodology combination of Grammar Translation, Audiolingual, and Lexical methods to cater to the learners' needs through translation activities, gap-filling, and drills.

In the development of GELMOOC, course materials were tailored by two expert's opinions in ELT in Higher Education to meet the study's goals, leveraging the online platform's capabilities for delivering lecture presentations and providing PDF versions for self-study. Microsoft PowerPoint 365 was used to create the interactive lecture slides, adhering to Mayer's (2009) multimedia learning theory principles while materialising the content, which emphasize the effective integration of text and visuals in learning materials to enhance comprehension and the learning experience.

Upon the completion of preparations and the course's readiness for publication, a one-month of enrolment period was initiated, following the embedment of GELMOOC on the continuing education centre platform of Çanakkale Onsekiz Mart University. Advertisement posters and social media promotional materials were created by a professional designer, which were disseminated by the researchers across diverse social media platforms, marking the start of the research.

2.3 Setting and participants

Following the launch and dissemination of GELMOOC, the course attracted an enrolment of 2957 individuals. Among these, 2432 attendees successfully completed the pretest, which was a prerequisite for accessing the course materials. After removing outliers and participants with insincere responses in both the achievement tests and satisfaction surveys, the dataset was refined to include 2410 participants. This cohort

comprised 714 males (29.6%) and 1696 females (70.4%). The majority were of Turkish nationality (2375 participants, 98.5%), with a small number of international attendees (35 participants, 1.5%). Despite the large initial enrolment, a significant dropout rate was observed, with only 12.32% of the participants completing the post-test, totalling 297 individuals (79 males and 218 females). Of these, 187 attendees (53 males and 134 females) completed both the posttest and the satisfaction survey.

2.4 Data collection

With the ethical board's approval of Çanakkale Onsekiz Mart University's School of Graduate Studies (Decision Dated: 08/09/2023, Number: 11/46), the researchers sought and obtained written consent from all the participants of the research in the pretest phase of the MOOC. Following consent, instructors were informed about the study and GELMOOC on the continuing education centre platform of the said state university in Türkiye, encouraging student participation and offering certification. These data collection procedures are visualised in Fig. 1.

2.4.1 Achievement test

To assess GELMOOC's effect on EGP proficiency, the study used a 34-question multiple-choice test by Küçüktekeli and Yılmaz (2015) with a 0.90 KR-20 reliability.

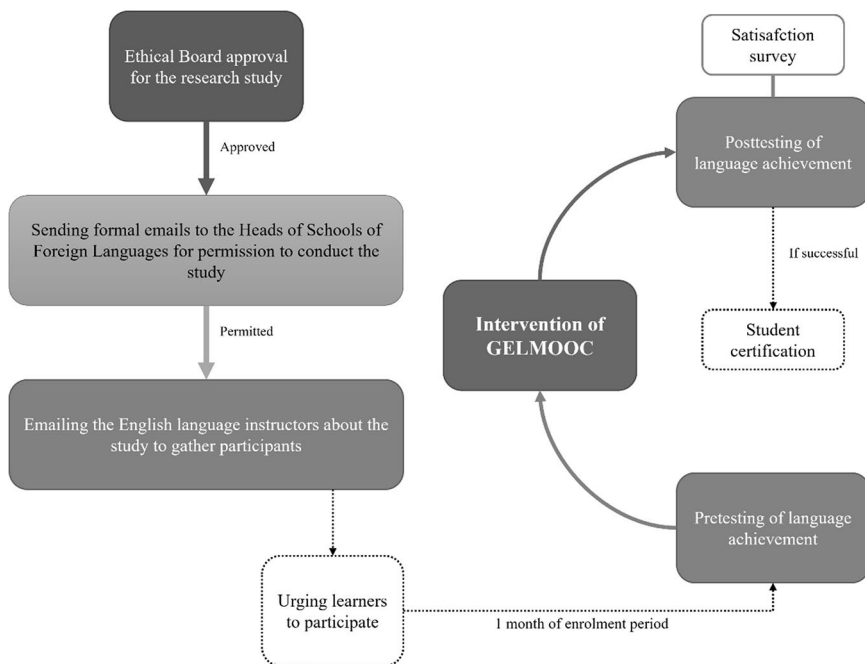


Fig. 1 Data collection procedures

This test, covering questions of various complexity levels, was implemented at both pretest and posttest phases. The test's linguistic level was at A2 as stated by Küçüktekeli and Yılmaz (2015), fitting the target audience of this study.

2.4.2 MOOC student satisfaction survey

The study also utilized a Turkish version of the MOOC Student Satisfaction Survey by Uygun and Cesur (2023), adapted from Kumar and Kumar (2020), to assess MOOC effectiveness and dropout causes. The Turkish survey was chosen to accommodate beginner-level participants' understanding and was administered post-course.

The translated survey consists of 19 items under five constructs. Course Content ($\alpha=0.84$) is comprised of six items, evaluating the relatedness of learning objectives and the course, authenticity in materials and their relevance, the sufficiency of course units, and the interactivity of the course. Including four items, Course Delivery ($\alpha=0.75$) measures the ease of flow and whether the course met the expectations of learners. Consisting of three items, Course Evaluation ($\alpha=0.67$) evaluates how assessment is dealt with in the course. With three items, Course Support ($\alpha=0.67$) measures whether the participant was left satisfied with the way support was provided on the MOOC's platform. Lastly, Overall Satisfaction ($\alpha=0.80$) has three items that attempt to measure the degree to which the course attendees were satisfied in general. All constructs of the survey have acceptable reliability scores, with good overall scale reliability ($\alpha=0.91$).

3 Results

3.1 Student achievement levels

The first research question examined the impact of GELMOOC on participants' achievement levels, using a pretest-posttest design. A paired samples t-test was selected for analysis after confirming the data's univariate normality, independence, and adherence to an interval scale, with the latter assumption directly met by the achievement test's grading scale.

Tabachnick and Fidell (2013) suggest that skewness and kurtosis values within ± 1.5 indicate normal distribution, a criterion met by the achievement tests as seen in Table 1. Researchers applied a chi-square test of independence to assess the relationship between pretest and posttest scores, finding no significant association ($\chi^2(924, N=297)=941.65, p=.34$), thus supporting data independence.

Table 1 Normality distributions of the pretest-posttest data ($N=297$)

Data	<i>M</i>	<i>SE</i>	Skewness		Kurtosis	
			Value	Std. error	Value	Std. error
Pretest	49.42	1.40	0.25	0.14	-1.10	0.28
Posttest	72.02	1.21	-0.73	0.14	-0.49	0.28

After fulfilling all prerequisites for a paired samples t-test as outlined by Field (2009), the analysis revealed a significant improvement in course participants' achievement levels post-EGP education via GELMOOC. Participants' posttest scores ($M=72.02$, $SD=20.87$) significantly exceeded their pretest scores ($M=49.42$, $SD=24.17$), $t(296) = -16.47$, $p<.001$, $d=0.95$, indicating a substantial positive impact of GELMOOC on EGP performance.

3.2 Student satisfaction in GELMOOC

The second research question in this study aimed to determine the self-reported satisfaction levels of course attendees regarding the implementation of GELMOOC upon completion of the process. Descriptive statistics of the results are presented in Table 2.

The survey on learner satisfaction for GELMOOC revealed high scores, with an overall satisfaction mean of 4.37 ($SD=0.49$). The highest score was hit by overall satisfaction, with a mean of 4.57 ($SD=0.53$), highlighting GELMOOC's pivotal role in encouraging enrolment and improving learner competencies. Content satisfaction ranked second at 4.53 ($SD=0.53$), thanks to its structured design and clear objectives,

Table 2 Student satisfaction levels ($N=187$)

Subscales and Items	M	SD
Course Content	4.53	0.53
CC1. I understood the objectives of the course.	4.73	0.47
CC3. I found the course modules easy to understand and follow.	4.57	0.68
CC5. I found the multimedia materials used to be relevant to the course contents.	4.56	0.64
CC6. Examples, illustrations, or real-world cases were used effectively to explain things.	4.51	0.74
CC2. I found the course modules adequate.	4.47	0.71
CC4. I found the multimedia materials (videos) used to be engaging.	4.37	0.83
Course Delivery	4.45	0.58
CD2. I did not have problems with course delivery.	4.53	0.75
CD3. I was able to relate each of the learning objectives to the learning I achieved.	4.49	0.63
CD4. The course met my expectations.	4.41	0.72
CD1. I was comfortable with the pace of the program.	4.39	0.82
Course Evaluation	4.01	0.67
CE2. I felt the deadlines were fair.	4.49	0.79
CE1. I believe the evaluation criteria and methodology adequately measures my learning.	4.34	0.77
CE3. Assignments demand full attention and are quite rigorous.	3.19	1.30
Course Support	4.30	0.76
CS2. The MOOCs support service was quick.	4.44	0.81
CS3. Interacting in the forums helped me to clarify things I did not understand.	4.26	0.86
CS1. I was able to navigate the course site quickly.	4.20	1.03
Overall Satisfaction	4.57	0.53
OS3. I am encouraged to enrol in another course in the future.	4.64	0.70
OS1. Overall, I am satisfied with the quality of this course.	4.57	0.66
OS2. Overall, I have improved the knowledge/skills.	4.50	0.71
Total	4.37	0.49

alongside the engaging use of multimedia and authentic resources. Satisfaction with course delivery, noted for its seamless execution and alignment with outcomes, was also high, with a mean of 4.45 ($SD=0.58$). Support services received positive marks as well, evidenced by a satisfaction score of 4.30 ($SD=0.76$). Lastly, although course evaluation had the lowest satisfaction levels, it was still positively perceived, with a mean of 4.01 ($SD=0.67$), suggesting that while assessments were considered manageable and appropriate, opinions on their rigor were neutral, indicating a perceived balance in difficulty.

The promptness of the MOOC support service and the rich interactive experiences offered in forums were acknowledged as significantly enhancing the learning experience. These interactions, mirroring exchanges between course lecturers and attendees relevant to this study, alongside comments in video lectures, were seen as beneficial to the learning process, with participants encountering minimal difficulties in course navigation. The high satisfaction levels in this area can largely be attributed to the instructors' prompt and supportive responses to learners' inquiries. Out of 56 questions posed by the attendees, 23 were content-related, while the remainder addressed technical issues. Content-related inquiries received direct responses, whereas questions requiring advanced technical support were directed to the continuing education centre's staff via email.

3.3 Relationship between achievement and satisfaction

The correlation between participants' posttest scores and self-reported satisfaction levels was analysed to answer the last research question, using Pearson's correlation analysis on normally distributed interval-scale data. The preconditions for analysis were confirmed, with data from 187 participants who completed both the posttest and satisfaction survey. Statistical analysis of skewness and kurtosis indicated normal distribution for both the post-achievement tests ($M=70.51$, $SE=1.53$; skewness = -0.59 , $SE=0.18$; kurtosis = -0.65 , $SE=0.35$) and satisfaction surveys ($M=4.37$, $SE=0.04$; skewness = -0.78 , $SE=0.18$; kurtosis = 0.90 , $SE=0.35$), aligning with the criteria suggested by Tabachnick and Fidell (2013). However, Pearson's correlation analysis found no significant correlation between posttest scores ($M=70.51$, $SD=20.92$) and satisfaction ($M=4.37$, $SD=0.49$), $r(185)=0.051$, $p=.48$, which indicates that satisfaction levels do not significantly impact achievement among GELMOOC attendees.

4 Discussion

4.1 Evaluation of GELMOOC

The evaluation of GELMOOC targeted three objectives, firstly assessing the course's effect on learners' achievements. Achievement in this study equates to improved EGP proficiency, with GELMOOC enhancing such levels. This aligns with other LMOOC studies in Türkiye, showing positive effects on language skills and outcomes (Bilici & Köroğlu, 2022; Köse et al., 2022; Yaşar, 2020a), and mirrors findings from similar LMOOC research emphasizing their role in boosting engagement and educational

achievements (Hashim & Yunus, 2019; Sun et al., 2019; Zhao, 2015). Thus, the study confirms LMOOCs' potential to significantly enhance language proficiency and educational outcomes across diverse contexts.

The second focus of GELMOOC's evaluation was learner satisfaction, crucial for influencing participation, achievement, and course completion (Astin, 1993), thereby guiding course design and implementation (Elia et al., 2019). GELMOOC scored highly on satisfaction, particularly in course content, a key satisfaction driver (Hew et al., 2020). Content that is understandable and aligned with learning outcomes tends to increase satisfaction (Joo et al., 2018), a goal achieved by incorporating authentic linguistic materials and real-life scenarios, vital for language learning (Ferguson et al., 2016; Sokolik, 2014), with supportive findings in similar LMOOC studies, as in Mulik et al. (2019) and Badali et al. (2020).

Finally, analysing the relationship between achievement and satisfaction revealed no significant correlation, a surprising outcome given the close association between satisfaction and factors like perceived quality, self-regulation, and motivation (Astin, 1993; Hew et al., 2020), and course design effectiveness (Elia et al., 2019; Wu et al., 2010). Despite GELMOOC's reported well-regarded design and delivery, satisfaction levels did not impact achievement, challenging studies that predict a correlation (Astin, 1984, 1993; Hew et al., 2020; Kumar & Kumar, 2020), while also confirming the findings of some studies that found no significant link between satisfaction and achievement (e.g., Cho & Heron, 2015).

4.2 Drivers of satisfaction and achievement

4.2.1 Course-related

According to previous research, properly established course design has an impact on achievement and learner satisfaction (Hew et al., 2020; Joo et al., 2018; Kumar & Kumar, 2020). Findings on GELMOOC's content features support this inference. Furthermore, Loizzo et al. (2017) highlight the importance of clarity and accessibility of course content, enriched with a variety of instructional materials and resources (Bingöl et al., 2020). Such are abundantly present in GELMOOC that demonstrates a prominent level of support for a different variety of interactive activities (Perifanou, 2016a, b), serving the purpose of achieving a clearly defined set of learning outcomes. The course material is also logically arranged, divided into meaningful modules, and has lecture videos with a clear theme, making it learner-friendly (Hew et al., 2020).

Another course-related factor which has a positive impact on student achievement and satisfaction in MOOCs stands as interactions among learners and those between learners and instructors, with mostly the former type outweighing in terms of the level of influence according to Bingöl et al. (2020). GELMOOC is a semi-structured course and partially inclusive of community building features, such as discussion forums, social media integration, free and flexible course content, and community learning, which increase interaction among participants as heavily supported by connectivists (Bates, 2022; Clara & Barbera, 2013; Downes, 2012; Siemens, 2013). Therefore, direct interactions among participants were minimal, and the participants

could only interact with one another through the planned synchronous lectures or by commenting on forums. The participants were mostly in direct contact with the instructors through continuing education centre's platform. Although this still nurtures engagement and interaction within the course, facilitating motivation, when the lack of diversified collaborative activities and opportunities for direct communication are considered, interaction among learners possibly has the lowest impact on achievement in GELMOOC, contradicting the results of similar research (Bingöl et al., 2020; Loizzo et al., 2017; Perifanou, 2016a, b).

The fact that GELMOOC was not highly flexible, and it was a rather semi-structured course did not result in any problems with course delivery, and most learners were comfortable with the program's pace. Though this finding corroborates with most LMOOC studies (Hew et al., 2020; Joo et al., 2018), there are also some that report less structured course content with more flexible goal setting in the program results in more satisfied learners (e.g., Li, 2019). Additionally, GELMOOC's content was reported to be highly interactive, which mostly met the expectations of the attendees. Such features are known to affect satisfaction and achievement according to the literature (Gameel, 2017; Kumar & Kumar, 2020; Shrader et al., 2016).

4.2.2 Learner-related

Learner-related factors are two-fold, being internal and external. The first of internal factors is having prior knowledge about course content, which facilitates the learning process by assisting learners with the easier integration of newly presented information (Zhou, 2017). GELMOOC's target audience is young adult EGP learners in Türkiye, who have already received English classes for a minimum period of eight years in formal instruction. Other internal factors include addressing and maintaining interest as well as meeting the needs of learners in the course, partially related to course design (Bingöl et al., 2020; Siemens, 2013; Zheng et al., 2015). Accordingly, learners of a MOOC are more likely to perform well and be satisfied with the course if it is of interest and relates to a current topic, such as learning a foreign language in the case of GELMOOC.

External learner-related factors include two main elements, the first of which is meeting the course requirements and actively engaging in the tasks (Bingöl et al., 2020). Since GELMOOC was reported by the participants to be of interactive nature, with elements of engagement coming into play during video lectures and presentational materials, the course was successful in maintaining overall learner interest. Moreover, synchronous lectures were held to compensate for the lack of face-to-face interaction and instructors, further engaging participants in the material and maintaining their motivation, a notable factor in the completion of a course as stressed by Dörnyei (1998) and assisting learners to succeed by creating a pushing factor (Anderson & Dron, 2011; Zheng et al., 2015).

The other external factor is the instructor's professional abilities and pedagogical performance according to Bingöl et al. (2020) as the roles of an LMOOC instructor is not just confined to teaching but also designing and delivering the course, organising the content, assessing the learning process, and most importantly, researching – as being done in this study (Castrillo de Larretta-Azelain, 2014). The inference

here would be that the instructors can be deemed sufficient in these aspects in that a MOOC instructor's manners and guidance within a course have a direct influence on the extrinsic motivation of the learners, thus affecting active engagement, satisfaction, and achievement of the learners (Zheng et al., 2015) who got their certificates at the end.

4.3 Mismatch between achievement and satisfaction

Several factors might explain the lack of a significant link between achievement and satisfaction in this study. A key issue is the use of self-reported satisfaction data, which can misrepresent actual satisfaction levels due to respondent biases, potentially skewing results by raising the risk of over or underestimation (Gonyea, 2005). Li (2019) highlights the critical need for cautious data interpretation of such data, an aspect this study might have overlooked. Additionally, the mismatch between the achievement test, designed to evaluate EGP success, and the satisfaction survey, aimed at assessing MOOC quality and delivery, suggests these measures may not be directly comparable, highlighting the insufficient instrumentation in the study and emphasizing the importance of careful interpretation of results.

Additionally, GELMOOC notably lacks diverse assessment methodologies, relying solely on an achievement test for evaluating learner outcomes. This approach aligns with the characteristics of xMOOCs, which employ automated systems to assess large cohorts of learners simultaneously, offering indirect feedback in the process (Bates, 2022; Siemens, 2013). Nonetheless, the incorporation of varied assessment strategies is essential to cater to students with differing backgrounds and motivations (Li, 2019). As such, GELMOOC could benefit from integrating formative tasks, akin to those described by Badali et al. (2020), alongside self-evaluation and peer assessments to ensure a comprehensive assessment framework. The absence of such diversity in assessment methods may also contribute to the observed lack of correlation between learners' achievements and their satisfaction levels.

Furthermore, the intrinsic characteristics of the course, including its design, structure, and the learners' pre-existing knowledge of EGP, might have independently influenced their satisfaction levels, irrespective of their achievement outcomes. This aspect underscores the significance of considering learners' background knowledge, which has been emphasized in several studies as a critical factor in educational outcomes (Bingöl et al., 2020; Zhou, 2017).

4.4 Potential dropout causes

Despite GELMOOC's well-structured design and its notable success in achieving high learner satisfaction, mirroring results from similar studies (Chong et al., 2022; Köse et al., 2022; Li, 2019; Yaşar, 2020a), it faces a significant dropout challenge, with only about 10% of initial participants completing the course and its achievement tests. However, the current study focuses on attendee satisfaction and achievement, limiting its scope in analysing dropout causes.

As for potential reasons, Bates (2022) and others have identified multiple dropout factors, including both learner- and course-related issues, such as motivational defi-

cits and poor course planning (Aldowah et al., 2019; Zheng et al., 2015). Despite this, the course's design and execution appear adequate, barring minor issues in communication and assessment, suggesting learner factors, such as workload, time constraints, and lack of incentive due to its being cost-free, might contribute more to dropout rates. The course's 28 videos, a three-month deadline, and its free, non-credit nature may deter completion (Aldowah et al., 2019; Kumar & Kumar, 2020; Zheng et al., 2015). In summary, although GELMOOC is well-designed and satisfies learners, its high dropout rate calls for a deeper look into learner-specific reasons to tackle the pervasive challenge of MOOC dropouts.

5 Limitations and recommendations

The study on GELMOOC faced several limitations, primarily related to time constraints and methodological issues. Firstly, a short academic term was allocated for course completion, possibly leading to cognitive overload and high dropout rates. In the posttest, the study only measured immediate retention, lacking long-term data. Also, though suitable for the research focus, the single group pretest-posttest design was experimentally weak, and the study's assessment methods and communicative features were limited. The course further relied heavily on asynchronous lectures, weakening communication, and mostly incorporated features of xMOOCs, criticized for their lack of interaction and behavioristic approach. Despite attempts at hybridization, communicational aspects remained weak. Lastly and unexpectedly, learner satisfaction did not significantly impact EGP achievement, which may be due to instrumentation issues or the possibility that satisfaction with course design and instructor approach did not translate to better learning experiences or achievements. The satisfaction scale focused on course-related factors, not adequately measuring learner-related factors.

For future research, addressing high dropout rates by identifying their causes and implementing strategies such as peer interaction, adaptive learning tools, and enhanced feedback mechanisms is crucial. Expanding assessment methods to include self-evaluations, project-based learning, formative feedback, and peer assessment can strengthen the assessment methodology and foster a more collaborative learning environment, possibly reducing dropout rates. Increasing the number of participants from different contexts for generalisability is also suggested. Lastly, extending the study duration to two academic terms could alleviate learner workload, reduce dropout rates, and provide more comprehensive insights.

6 Conclusion

This study aimed to assess the impact of distance education on learner achievement and satisfaction in EGP courses in Turkish higher education through the development and evaluation of GELMOOC. Despite a high dropout rate, the findings indicate a significant improvement in participants' achievement levels, demonstrating the substantial positive impact of GELMOOC on English language proficiency. Participants'

posttest scores were significantly higher than their pretest scores, indicating that the course effectively enhanced their language skills. Additionally, the study found high levels of satisfaction among participants, particularly in terms of course content, delivery, and overall support services. However, the correlation analysis revealed no significant link between participant achievement and satisfaction levels, suggesting that these two factors operate independently.

LMOOCs have the potential to be an efficient medium for language learning, as demonstrated by GELMOOC's success in increasing participants' English performance. This suggests that distant learning could serve as an effective language learning medium, providing students from diverse backgrounds access to high-quality language instruction. The significant improvement in achievement levels among participants highlights the effectiveness of well-structured and engaging online courses in enhancing language proficiency. Educational institutions and policymakers should consider integrating such online platforms into their curricula to expand access to language learning opportunities.

The high levels of satisfaction reported by participants emphasize the importance of clear course objectives, engaging multimedia content, and relevant materials. For language MOOCs, ensuring that course content is well-organized, interactive, and aligned with learning outcomes is crucial for maintaining learner interest and satisfaction. Additionally, prompt support services and interactive forums play a vital role in fostering a positive learning environment, suggesting that these elements should be prioritized in the design of future MOOCs.

The lack of a significant correlation between achievement and satisfaction suggests the need for more comprehensive assessment methods in language MOOCs. Relying solely on achievement tests and self-reported satisfaction data may not fully capture the scope of learner progress and satisfaction. Incorporating a variety of assessment strategies, including formative tasks, self-evaluation, and peer assessments, can provide a more nuanced understanding of learner outcomes. Additionally, using more objective satisfaction metrics alongside self-reported data can yield more accurate insights into the effectiveness of the course.

Finally, addressing the high dropout rates common in MOOCs is essential. Factors such as workload, time constraints, and the non-credit nature of courses can significantly impact completion rates. For language MOOCs, providing incentives, integrating credit-bearing components, offering flexible deadlines, and ensuring a manageable workload can help reduce dropout rates and ensure more learners complete the course.

In conclusion, while GELMOOC has demonstrated considerable success in enhancing language proficiency and achieving high learner satisfaction, the findings highlight broader implications for the design and implementation of language MOOCs. By addressing areas for improvement, such as comprehensive assessment methods, effective satisfaction measurement, and strategies to reduce dropout rates, future online language courses can achieve greater effectiveness and learner engagement, contributing to the advancement of accessible, high-quality language education.

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Declarations

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